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DR. EDGAR F. SMITH.

VICE-PROVOST OF THE UNIVERSITY OF PENNSYLVANIA.

THE NEW PRESIDENT OF THE AMERICAN PHILOSOPHICAL SOCIETY.

THE
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COMMUNICATIONS.

Dr. Edgar F. Smith.

No student or alumnus of the University would consider our gallery of the Faculty of the Dental Department complete without it contained the portrait of our worthy Vice-Provost Dr. Smith.

Although his photograph has appeared in almost all the University papers, we again present it to complete our gallery and to gratify our readers who are making collections of the portraits of the Faculty.

Dr. Smith has always kept closely in touch with the Dental Department, and has, on numerous occasions, expressed his interest and pride in it. No Freshman reception or any other meeting of importance would be complete without his presence.

Dr. Edgar F. Smith received his early education in York, Pa., and graduated from Pennsylvania College, at Gettysburg, in 1874, specializing in chemistry and mineralogy. He later studied in Germany, under the most prominent German chemists, and received the degree of Ph.D. from Göttingen. Upon his return to America, in 1876, he became assistant to Prof. F. A. Genth, of the Towne Scientific School of the University. From this position he was called to Muhlenberg College, as Asa Packer Professor of Chemistry, from which he was called to be Professor of Chemistry at Wittenburg College, Springfield, Ohio. He was elected to the Chair of Chemistry in the University of Pennsylvania in 1888, which position he has held ever since.

He is President of the American Philosophical Society, and is a member of the Berlin Chemical Society and the National Academy of the United States. He is the author of "Electro-Chemical Analysis" and of a large number of papers on chemical subjects, and is the translator of a large number of German works on chemistry, including "Richter's Organic and Inorganic Chemistries," "Classen's

Elementary Quantitative Analysis," "Oettel's Introduction to Electro-Chemical Experiments."

His courses in the College Department have always been exceedingly popular. He takes a great interest in athletics and is chairman of the Faculty Athletic Committee. No student celebration is complete without a few words from Dr. Smith. A few words into the ears of a Sophomore leader will quickly end a Sophomore-Freshman clash. No man in the University holds more the respect and love of the dental students than does he, and the "Dent" in trouble knows that he has a friend in Dr. Smith.

Hobbies.

BY DR. J. G. LANE, 1890.

"ALL work and no play make Jack a dull boy." This is the old, old statement that grandmother quotes to the overzealous mother, whose sole ambition, in regard to her boy, is to have him become manly and forget that he is a boy. Never was more truth uttered in so many words than in the statement that all work and no play make Jack a dull boy. Under such conditions as the phrase indicates, Jack not only becomes dull, but he is by the same conditions becoming unnecessarily worn out. He is also by these conditions made to become physically aged far ahead of his years. The ultimate result is that Jack's life has been one long, weary drudge.

The import of this essay is not that it shall be a treatise on training the boy, although the period referred to in the nursery phrase dates to boyhood only.

> "Hearts don't change much after all;
> Men are only boys grown tall."

To the boys who have thus "grown tall" this is a plea that they may see the wisdom in having an avocation as a running mate with their vocation. An avocation may or may not be a hobby, but to be successful in the light that is here intended it must be a hobby.

It is a well-known, deplorable fact that dental practitioners are, by reason of the very nature of their professional duties, liable to become morose and dyspeptic. This need not be the case, but unfortunately it is the case. The practice of dentistry may not actually necessitate the operator's getting around over more than a few square yards—or shall we say a few square feet?—of the world's surface each day; the necessity to do otherwise being absent, the inclination to do otherwise is also absent. The day's program is thus begun, pursued, and completed within the narrow confines of a dental office. Tired? too tired to do anything except loll back in a rocker or lie down and take a nap. The harvest gleaned during the day consists in aching muscles, memories of irritated pulps and their owners, and the thought of what may have taken place in those repaired teeth by to-morrow. The next day sees the same program carried out with the same results. And all the other succeeding days are like unto it.

What trait is this producing in the individual? Selfish crankiness, shall we call it?

This condition of affairs should not exist; it may be eliminated by the use of hobbies selected to suit the fancies of the individual and utilized in a way to divert the mind as occasion may require. Let us introduce some of the more prominent or important avocations from which each individual may select his hobby. Gunning, golfing, photography, experiments in electricity, music, dynamics, physics, rowing, billiards, bowling, art, travel,—in fact, the store from which we draw is almost limitless in its supply. Any legitimate pastime may be utilized for the purpose. Anything that will, for the time being, take the mind away from the routine of daily work will answer. Something that embodies the elements of chance and excitement or supremacy will be found most pleasing. A hobby that will occupy the mental powers only is not as beneficial to the dentist as would be something that required action and open air for its consummation. It is possible that a hobby may be capable of providing diversion and pleasure, of developing and training muscles and tissues not exercised in the routine of dental practice, and at the same time be the means of producing a material something for its continuous product that could be utilized in our work. Such an one might be found in electrical experimenting, dynamics, photography, art or physics.

The truly successful hobby must necessarily involve physical labor. The question may then be asked,—Why advise any form of labor as an antidote for fatigue? This is analogous to the old Indian custom that was made use of on the trail when very young members became so tired by much walking that they asserted their inability to continue. The braves and squaws would compel the little fellows to pick up and carry a large stick or stone just as far as they could. The result was that when the weight was thrown off and the individual trudged off without it he felt relieved and rested. This may seem a strange cure for fatigue; and we might be inclined to suppose the benefit derived therefrom imaginary. If, however, we think for a moment, we see that a physical as well as a mental benefit results. Moreover, anyone can readily verify the foregoing by actual experiment. The different position assumed by the body and the different exertion necessary bring an entirely different set of muscles into action; relief, for the time being, is thus afforded the muscles that were fatigued, and they have an opportunity to recuperate. A change of scenery and thought will influence the mental faculties in the same manner by diverting the mind from the unpleasant incidents of our daily toil. Thus, what we might call a renewal of the mental forces has been established. The physical and mental conditions thus created will, when combined, cause the individual to be very much refreshed and invigorated.

This is the result that is gained by the judicious use of a suitable hobby.

An occasional day in the field or forest with gun or camera, or with rod and line following a stream far away from the cares of business, will, in the long run, net more profit than the fees for several days' efforts in the office. An occasional hour at a metal-working lathe will afford a wonderful relief from the monotony of going right ahead with the same old thing that we pursue, day after day, for a livelihood. Patients will have a word of commendation for the operator who is wise enough to break away from business, as occasion may require, and recuperate. Only occasionally one will find fault, and such an one should be treated as a very minor consideration. He who finds fault because you take time away from your office for a necessary amount of diversion needs some enlightenment on that particular point.

A son of Erin once saw a driver belaboring a balky horse while its mate (Barney) was vainly endeavoring to start the load that was large enough for both. Calling to the driver, he said: "Why don't you lick Barney, for he will pull." There are among our patients a few of those who would "lick Barney" if they happened to discover that he was overwilling and could be urged to go beyond his ability, and would be unwise enough to allow injustice to be thus heaped upon him. With such patients the bad effects of overexertion never enter into the consideration. This is wrong. The sooner we assert ourselves in this matter the better for us.

The busy man who never cared for hobbies and never gave any attention in that direction will say: "How can we find time for this hobby or diversion"? It is simple enough. The time for a day's outing can be had as easily as the time for a day's work in the office, and in exactly the same manner. Make an appointment to that effect and record it in sequence with your business and social appointments or engagements, and when you come to it in your list treat it the same way as you would any other. Fulfill it.

During the past few years we have had sprung upon us the Brown-Séquard elixir of life, Koch's lymph, and other nostrums of the same kind. The use of these was supposed to established a condition of perpetual youth. If such a thing as a means to prevent old age and decrepitude were made possible by medical science or otherwise, we can conceive of no other one thing that would be as joyously hailed by mankind all over the world. However—much as we may desire it—such a thing is not possible. We are sure to grow old as years advance; we must meet the age of inability when it arrives. But we can, by our own volition, elect our way of living and doing in such a manner that the period at which the aged condition arrives will have been very materially delayed. Suitable hobbies, judiciously ridden, will be found a most effective means of accomplishing this end. We have but to look about us to see this proved in every-day life.

Every duty, every problem, every incident, everything in our existence, has two sides—a good side and a bad one, or a pleasant and an unpleasant side. We can see whichever side we look for. The ability to see and care only for the good or pleasant side and shun its opposite will do more toward longevity and the ability for usefulness than all the nostrums ever manufactured. This happy faculty of utilizing the pleasant and shunning the unpleasant can be made a hobby if one but exerts the power of his will for that purpose. Such a hobby is invaluable, and should be courted by everybody.

The person who toils through the long, weary years of this life without a hobby is unconsciously missing the large percentage of this world's pleasure that actually belongs to him. Of course, one who has never tasted oysters does not like them—does not know what he is missing. After a taste he is usually sorry so much time has been lost.

To those who have not cultivated the companionship of hobbies, we would, on the strength of the argument herein set forth, urge that the experiment be made.

Diversion and amusement of any kind carry with them the possibilities that the overzealous hobbyist may find himself carried away captive. To such we would recall the immortal sentiment of Alice Carey, that "Too much of joy is sorrowful."

It is possible that any hobby, no matter how valuable, may by excessive use be ridden to death; result disastrously to you and your profession; be a detriment to your social standing and a bore to your friends. Unfortunately, this sometimes happens, and should be studiously guarded against. A hobby should not be carried so far that it could do an injury to one's business. The result would be a reaction that would more than counteract the benefit derived. The number of hobbies made use of by any one individual may be excessive; and, if so, no good result can be expected. Anyone can successfully follow one or two hobbies, but if more are attempted the result will be a failure.

A little effort and vigilance concerning all the foregoing possibilities will cause to be established an equilibrium between hobby and business that will be one continuous source of benefit and pleasure.

Some Oral Tumors.

BY GEORGE S. POWELL, L.D.S., 1904.

[Read before the James Truman Dental Society and awarded honorable mention.]

It is not my intention to speak upon this subject at any length to-night, but rather to condense a few thoughts regarding my subject, and to sift out, if possible, the main essentials for us as dentists. When we study dental history and compare the status of the profession to-day with that of three or four decades ago, we are thrilled with a feeling of hope for the future. In those days a large number of treatments were wholly empiric, but with the marvelous progress in the study of physiological and pathological processes, many treatments are to-day placed upon sound logical bases. But with all the advance the increased horizon seems to reveal problems deeper and more intricate than before. There is a strong tendency against empirical practice, and men are becoming keener for knowledge of etiology; which, in connection with tumors, is hypothetical. The most acceptable hypothesis is that they originate from embryonic masses of cells which have become misplaced during development and lie dormant until a given time, when, through some exciting cause, they become active. Sajous suggests, with a good amount of reason, that their causation is connected with oral nutrition. He argues that, grouped as sarcomata are now, according to the variety of connective tissue which forms their framework, we have, as is well known, myolympho-, fibro-, myxo-, glio-, osteo-, etc., and, finally, ulcero-sarcoma, all of which, he says, seem to clearly indicate that any part of a system in which nutrition is, from one cause or another, relatively impaired may become the seat of this malignant growth, or rather of a local accumulation of the aberrant or worn-out cells which enter into its formation. The great vascularity of these growths suggests an effort of nature to cause elimination, but a proliferation is alone induced, the blood being deficient in the four constituents—trypsin, fibrinogen, oxidizing substance, and alkaline salts—which should insure destruction of the morbid cellular elements. Apart from the marked vascularity peculiar to sarcoma, the same pathological process obtains in cancer, although here we are dealing with the localized accumulative retention and proliferation of epithelial cells. He assists his argument by suggesting that the Roentgen rays seem to supply one of the missing factors upon which the curative process depends, *i.e.*—a local accumulation of heat energy and a congestive process through which leucocytes are caused to immigrate into the growth in large numbers to convert the degenerated cellular elements into the benign products. In view of the especial interest which is being taken to-day in the secretions and the evident potent part they play in all pathological conditions, the foregoing hypothesis is intensely interesting.

I will not dwell longer upon the etiology, but will call your attention for a few minutes to a few tumors which we are most likely to incur. It may be well in this connection to differentiate between the two great classes of tumors, speaking from a clinical standpoint, namely, *malignant* and *innocent.* *Malignant* tumors grow rapidly; they do not resemble the tissues in which they grow, being generally composed of immature cells like the embryo; they tend to infiltrate neighboring structures rather than to push them aside; they often lead to secondary deposits in the neighboring lymphatic glands and become disseminated throughout the body by means of the blood or lymph streams. On the other hand, innocent tumors grow slowly; they resemble fully formed tissues, such as fat, cartilage, bone, etc., and usually are composed of the same kind of cells as the tissue in which they occur. They are inclosed, as a rule, in a fibrous capsule; they are well defined and circumscribed, and simply push neighboring parts on one side without infiltrating them. They do not involve the lymphatic glands; they do not become dissseminated in distant organs, and they do not grow again after they have become completely removed.

Tumors may be classed in different ways, but, for our purpose, it will perhaps be best to class them according to structure and mention those which we are most liable to encounter. In the connective-tissue tumors, which we will consider first, we have the *fibromata,* which consist of bundles of fibrous tissue. It may be hard or soft. In the hard variety we have many fibrous bundles lying in close contact, while in the soft there is much areolar tissue, the spaces of which are filled with fluid. In this variety we are chiefly concerned with the fibrous epulis, which arises from the gums and pericementum in connection with a carious tooth or stump. It is covered by mucous membrane, grows slowly, may attain a large size, sometimes has a stem, but is more often sessile. It *may* undergo change and become sarcomatous.

Treatment.—Fibromata should not be allowed to remain, as they may become malignant. Fibrous epulis requires the cutting away of the entire mass, the removal of related mass or carious tooth, and sometimes the biting away of a portion of alveolus with a suitable bone forceps.

We will next consider osteomata. The term exostosis has been used as being synonymous with osteoma, but wrongly so, as an exostosis is an irregular local bony growth, which does not tend to progress without limit. We have a good example of this in the teeth. Where it exists upon the teeth we have to use radical treatment and extract the tooth, which is often a difficult undertaking. The diffuse variety or true osteomata affect the bones of the face. They consist of finely cancellated bone; they have no limits, but gradually encroach upon the cavities of the orbit, nose, antrum, etc.

The *odontomata* are tumors composed of tooth tissue, as the name implies. They spring from the germs of teeth or from developing teeth. They are classed as:

1. Springing from tooth follicle.
2. Springing from papilla.
3. Those composed of all tooth tissues and springing from the whole tooth germ.

Epithelial odontomata or multilocular cystic tumors arise from the follicle and occur chiefly in the mandible. They dilate the bone, have capsules, and are made up of masses of cysts filled with brown fluid. They occur usually before 20.

A *fibrous odontome* is due to a thickening of the tooth sac, which prevents eruption of the tooth. Fibrous odontomata are usually multiple, and are apt to occur in sickly children.

A *cementome* is due to enlargement, thickening, and ossification of the capsule, the developing tooth being cased in cement.

A *compound follicular odontome* is due to ossification of portions only of an enlarged and thickened capsule, and the tumor contains bits of cementum, portions of dentin or small misshapen teeth.

A *radicular odontome* springs from the papilla and arises after the crown of the tooth is formed and while the roots are forming, hence it contains dentin and cement, but no enamel.

Composite odontomata are formed of irregular, shapeless masses of dentin, cement, and enamel. All the above forms occur in man. They present themselves as hard tumors associated with teeth or in an area where teeth have not erupted. Occasionally an odontome causes necrosis; it is surrounded by pus, and mucus forms.

Treatment.—The diagnosis is scarcely ever made until after an incision, hence be in no haste to excise large portions of bone for a doubtful growth. Incise first and see if it be an odontome, which requires only the removal of an unerupted tooth, curetting with a sharp spoon and packing with iodoform gauze.

Perhaps the variety of tumor which we will most often come in contact with, especially if we pay much attention to orthodontia, is the one we will now consider, namely:

Myxomata.—These tumors are composed of mucous tissue. They occur most often in young adults, as a result of inflammation. Some pathologists place myxomata among the malignant, but most consider them benign, though they tend strongly to become sarcomatous. They may arise from the skin, from the mucous membrane of the nasal cavities, frontal sinus, antrum, auditory meatus and tympanum, and from the parotid gland. A sudden increase in growth indicates beginning malignancy (sarcomatous change). Mucous polypi are soft and jelly-like, of a grayish color. They may sometimes be seen through the anterior nares and may project behind the soft palate. They usually are multiple, and may be present in one nasal fossa or in both. They occur most commonly in youths and young adults between the ages of 15 and 35 years.

Treatment.—Remove them promptly and thoroughly, because of the danger of sarcomatous change, and, from our standpoint, the part they play in inducing irregularity. Nasal polypi may usually be twisted off or be removed by the galvano-cautery. Occasionally, when the growths are numerous and recur rapidly after removal, the inferior turbinated bones should be removed. This operation secures ready access to the area of the disease, which can be attacked radically.

Angiomata.—An angioma is composed largely of dilated bloodvessels. Some, so called, are not genuine new-growths, but are due to dilatation and elongation of bloodvessels.

The simple or capillary, commonly designated "mother's marks," which affect the skin or subcutaneous tissues, are composed of enlarged and twisted capillaries surrounded by fat. They may pass away spontaneously, but usually they grow constantly and may become cavernous, which variety is made up of large endothelial cells, spaces with thin walls carrying blood, erroneously called capillaries. They may arise in breast, tongue, lip, cheek or gums. If they are large, and especially if increasing, they call for treatment. They can often be completely cured by touching with fuming nitric acid. The growth may be destroyed by heat, a knitting needle at a dull red heat, or the galvano-cautery. When large they may be strangulated, as Dr. Cryer proposed to do in the case of a lad he had at his clinic where there was a cancerous angioma in the right cheek. Da Costa asserts that excision is by far the best plan. It would be wise for us to always watch carefully for the slightest symptoms of the malignant varieties, for we are more likely to discover such in the earliest stages than anybody, and perhaps long before the patient is aware of the approaching danger. When we learn that 18,000 persons died from cancer in America during 1900, it should clearly point out our duty to us.

Actinomycosis.

BY A. E. ROS, 1904.

[Read before the Edwin T. Darby Dental Society.]

PERMIT me to bring before you for consideration and discussion this evening a pathological condition which in spite of its rarity may sometimes be met in our practice of dental surgery.

I have reference to a condition which has been named actinomycosis. This disease, as I have stated, is of infrequent occurrence, and when met with may be confounded with other conditions more familiar to us, as sarcoma, tuberculoma or syphiloma, and in order that such errors may be avoided I believe it is worth while not to throw our knowledge of this disease on the world of forgetfulness or indifference, but, on the contrary, cultivate it so as to be able to recognize such disease whenever met.

In order that a clear understanding of actinomycosis may be obtained, we will consider its etiology, morbid anatomy, symptoms, diagnosis, prognosis, and treatment.

Actinomycosis is a disease especially of cattle, and, as we know, it is produced by a ray fungus called actinomyces. This actinomyces may be roughly described as having a rosette shape, the center being granular and surrounded by pear-shaped processes.

This parasite is found in some plants, and this is the way that they gain access into the mouth and the rest of digestive apparatus. Bollinger was the first to discover this condition in cattle in 1877, but thirty-two years before, in 1845, Langennback had met with this condition in man.

It is also supposed that the actinomyces may be taken in through the air breathed, when its effects are manifested in the lungs.

When such is the case, the name of pulmonic actinomycosis has been given, and its manifestations are grouped into three different stages.

(1) Chronic bronchial catarrh.
(2) Pleurisy with adhesions.
(3) A stage characterized by ulceration of fistula.

The lung manifestations of actinomycosis and its lesions are not of interest to us, and I do not wish to go beyond our field of operations, my intention being simply to show by means of these facts that the channel by which the actinomyces may gain access is through the digestive and respiratory apparatus.

The former mode of infection, or through the digestive tract, is of the greater importance to us.

The actinomyces residing in certain cereals are taken into the stomach by man. If any abrasion of the mucous membrane is present, or if any decayed tooth, alveolar abscess, open alveolus from extraction, etc., exist, the actinomyces come in direct contact with this surface or with a tissue whose vitality is lowered, as the case may be. An infection is produced. Any other part of the digestive tract may be affected, especially the intestine, where suppuration and consequent perforation and metastasis may both occur. Actinomyces threads have been repeatedly found in the saliva and in carious teeth.

Let us suppose now that the parasite has found access into the mouth and has come in contact with a susceptible part: What is the pathological process which will occur? The cells in this neighborhood are excited and granulated tissue is formed. This increase of tissue forms a slowly growing tumor, which tends to invade the adjacent tissue; both soft and bony tissue are involved, however. This condition is most frequently found in the lower jaw, but the floor of the mouth, esophagus, etc., may be affected.

Moosbruegger reported seventy-three cases of actinomycosis. Of these, in forty-one the jaw, tongue, throat, and esophagus were involved.

The tumor may remain in a stationary condition for a long time, but more commonly it degenerates, the tissue breaks down, and forms a brownish, pasty mass. The brown color is undoubtedly due to presence of blood through hemorrhage. More commonly, however, it goes on to suppuration, and a whitish color is then imparted to the mass.

The presence of pus is not probably due to the action of this specific organism, but undoubtedly to a further infection by pyogenic bacteria.

The pus offers an appearance of some diagnostic value; it is thin and viscid and contains small nodules of gray or yellow color, of the size of a poppy seed, which can be detected by the naked eye when spread over a glass.

When examined under the microscope with a high power, we see a pear-shaped mass in the center which radiates. This description coincides with that of the actinomyces, of which mention has been made before.

The symptoms are objective and subjective. The objective symptoms are the formation of the tumor and its pathological changes just described.

The subjective symptoms are slight local pain, irregular and often intermittent fever, and if the process is not checked, metastasis occurs and any organ may be affected, whence general infection may take place, with the symptoms of sepsis and pyemia.

The diagnosis should be easy; the slowness of the process, the character of the pus, and the finding of particular organism make the diagnosis clear.

It may, however, be confounded with sarcoma, tuberculoma, and syphiloma.

Sarcoma does not break down and suppurate as early as in actinomycosis. Tuberculosis is attended with glandular swelling. Actinomycosis only produces glandular swelling after secondary infection. If syphiloma, the specific treatment of this disease will clear the diagnosis.

Prognosis: If seen before metastasis has taken place, or before an extensive area has been involved and proper treatment can be carried out, the prognosis is good; otherwise, prognosis is unfavorable.

The treatment is surgical and consists in the removal of the diseased tissue whenever possible, care being taken that only healthy tissue has been left. If for any reason extirpation of the tumor is not practicable, the suppurating cavities and sinuses should be freely opened, diseased tissue curetted, and injections made with a strong solution of carbolic acid and the sinuses then packed with tampons containing chlorid of zinc.

The use of a solution of nitrate of silver has also been recommended as a very efficient local treatment.

Internally the iodids should be tried in full doses, with the purpose of producing iodism, for about a week; then the doses should be decreased and increased intermittently.

As we noticed, this condition as seen by the dentist is a curable one, and an early diagnosis permits the checking of the process and the accompanying fatal conditions.

Cleanliness in Dentistry.

BY WILLIAM M. CAMERON. D.D.S.

[Read before the James Truman Dental Society.]

THE most important essentials to the successful practice of dentistry are efficiency, industry, affability, and cleanliness.

I hope that I may be excused for presuming on the time of those who are proficient in this last essential, and will, therefore, find my paper unentertaining, but it is just possible that even these will be benefited by a consideration of this subject by following a few thoughts which I will try to state as concisely as possible.

There is an old adage, which says that "Cleanliness is next to godliness," and I think it is as near the truth in the dental profession as in any department of this complex organization which we call civilization.

There is no word in the language that I know of that has such large possibilities in its meaning as this word cleanliness.

The careful student will be surprised to find how many offices are wanting in this respect. I have been in offices and noticed blood stains on the forceps which have been laid away. I have seen the smaller instruments in all kinds of confusion, and in the laboratory, plaster and dirt everywhere. I have seen dentists' fingernails present the sorrowful suggestion of being in mourning.

There are many different phases of cleanliness in dentistry, but perhaps the two most important divisions are the surgical and the mechanical.

Surgical cleanliness is a deep subject, and involves a study of bacteriology, pathology, and surgery. So I will not attempt to dilate on that phase of the subject, but will confine myself to the purely mechanical side.

The office should be so arranged that it can be conveniently swept and dusted every day, and all the furniture, magazines, books.

and papers kept in perfect order. The nicest taste can be displayed in the selection and arrangement of these things.

The operating room should be free from all unnecessary nickel-plated accessories and have the appearance of a cozy little sitting-room, rather than the place where the scientific experiments of a dentist are practiced on the sufferer. All medicaments having strong odors should be, as far as possible, kept out of the office. The odor of medicines may be controlled by having a glass medicine case and by handling them carefully, so that bits of cotton containing them will not be left about and none of the medicament left on the outside of the bottle.

The laboratory is sometimes made the dumping ground for all the refuse about the office, and therefore is very untidy. Now this department will be much more efficient if kept clean and tidy, and can even be made attractive. It is generally hard to produce clean and tidy work in a dirty, untidy laboratory.

The secret of keeping this place clean is to have a handy place for everything and to keep everything in its place. Learn to handle the plaster carefully, and with a little sweeping and dusting you have a laboratory that it is a pleasure to work in.

My preceptor once told me that he could make a set of teeth in a parlor and not soil the carpet. Now that would only require precise and tidy workmanship.

Then the personal cleanliness of the dentist himself is important. It is hardly necessary to speak about the clothing. But I would like to speak about some things that I have seen neglected. The operator should be perfectly free from all odors of any kind, such as food materials calculated to taint the breath and the odor of tobacco. It is a common mistake to suppose that a bad smell is disguised by mixing with it another more agreeable. Now this is a delusion, as will readily be seen when we think of the fact that when several odorous substances are mixed the mass or combination gives off the odor of each of the ingredients.

A prolific source of disagreeable odors about some dentists is the result of the use of tobacco, and it seems to be the idea that the chewing of a few pieces of sen sen will effectually eradicate the stale smell of tobacco from the person.

Dr. Johnson says that "to smoke during office hours is a great and unpardonable sin, and no dentist who has any regard for either himself or his patient will commit such a breach." Now there is no professional objection to the dentist's smoking if he chooses, but the odor should be carefully removed before approaching the patient, by such known remedies or deodorizers as charcoal and potassium permanganate, not merely rinsing out the mouth, but also paying attention to the stomach and the clothing.

The fingernails should be kept in perfect condition, and it is surprising to notice how many physicians and dentists neglect this little toilet procedure. Perhaps it might be well to mention a few things in regard to the care of the nails. They should never have any trace of débris under the free margins; they should be kept in length exactly even with the finger tips and always filed smooth and gracefully curved. The cuticle should be retained in contact with the nail to as near the end as possible. And at the root of the nail, on the contrary, the cuticle should be pressed back as far as possible, always being careful not to bruise the nail at this point, as that results in the white spots which mar the beauty of the nail. Of course, the dentist who does much laboratory work will find it difficult to keep the nails in order, but just in proportion as it is difficult to accomplish is there necessity for care, as the patient knows no such excuses.

At the chair the dentist should always try to avoid breathing in the patient's face, and he should never allow any part of his body to come into contact with that of the patient unnecessarily. The office linen should be of the finest quality, and, as Dr. Darby says, should be made in Ireland, nicely laundered, and never left in sight after being soiled. There should be plenty of it, but it should not be so profuse as to be suggestive of operations and hospitals. The instruments should be conveniently grouped and laid aside when certain parts of the operations are completed—such as the excavating instruments, which may be laid aside when the cavity is prepared, and the filling instruments for the case in hand, laid on the operating table in their place, thereby avoiding loss of time and also presenting a more tidy appearance.

The instruments may be conveniently cleaned by scrubbing with a brush in soap and water, then immersing in a 20 per cent. solution of formalin containing borax to saturation. The borax prevents the corrosive action of the formaldehyde. All of the soft polishing accessories, such as wood and rubber points, etc., should be discarded when once used, and a handy receptacle for all this and other refuse from the chair will look much neater than throwing them on the floor as some do.

The cement-mixing slab is an item that is often neglected. It may easily be kept clean by simply wetting with a few drops of water as soon as you have finished using, then, after a little time, the cement will scale off easily.

Rubber dam should never be used the second time, even if the patient does not know the difference. It involves a mean principle to do anything behind the patient's back that we could not do before the face, and will sooner or later, if indulged in habitually, seriously injure the reputation of the dentist who does it.

Finally, there is to be considered, cleanliness on the part of the patient. It is one of the first duties of the dentist to educate his patients, when such education is needed, in regard to care of the teeth.

Now it is a surprising fact that many people who are respectable, intelligent, and in every way desirable patients are often remarkably uneducated in regard to the care of the teeth, and it sometimes becomes a very delicate task to inform and educate such patients, as they often think that they do understand and are doing all that can be done. In such cases it becomes necessary to inform and convince them without embarrassing them. This may sometimes be done by mentioning something new in the way of a tooth-brush or powder, and in describing its use incidentally describe the whole process of caring for the teeth and laying special stress on the defects of the case in hand.

Then sometimes patients will present themselves who have never given the teeth any care whatever. Then it becomes the duty of the dentist to instruct that patient in such a way that he will be enlightened, and to do this the temperament and characteristics of the patient must be considered, and such instruction given as will likely be heeded. The instruction suitable for one person would go unheeded by another.

A case in practice was somewhat amusing in this respect: A young man came to my office, and when he opened his mouth it was evident that his teeth had not been cleaned for some time. There was a considerable amount of work to be done. We talked it over and agreed on a line of procedure. I then waded in, so to speak, to do some preliminary cleaning, at the same time trying to impress upon my patient the necessity of thorough and systematic cleaning every day with brush, powder, etc. When he returned for the next appointment there was still evidence of uncleanliness, but knowing that it takes some time to form a habit, and, being anxious not to wound my patient's feelings, I did not say anything about it. Again the same condition was noticed, and I made another attempt at teaching.

The fourth time there was no improvement, and I made a decided effort to find out why I had been so unsuccessful, which drew forth the fact that he was waiting for me to finish my work when he would start and clean them regularly.

The saliva of some people is viscid and very ugly to manage. This can be temporarily ameliorated by a thorough rinsing and gargling with a solution of common salt.

Care with regard to matters of this kind will make daily life a pleasure. And the dentist who exercises it, though he be not as skillful as his neighbor, will surely grow more skillful, will in a short time attract to himself the very nicest class of patients in the community in which he practices. He will find dentistry one of the happiest of callings, and, if he is at all thrifty in regard to the financial side of business, will never be in need of either friends, patients or money.

Something About "Oral Hygiene."

BY L. S. MARKS, 1904.

[Read before the Edward C. Kirk Dental Society.]

LET us first understand what hygiene is: Hygiene is, then, "the science of health, personal and general, individual and common, and the study of the environments of man in relation to their influence on health."

Now let us get a good definition for oral hygiene by the application of this definition.

Oral hygiene is the study of the various prophylactic methods by means of which the mouth is kept in a condition inimical to the life and growth of bacteria, thus tending to preserve the teeth from decay, the gums from disease, and thus also protecting the system generally from the effects of many troublesome disorders due to the absorption of the products of the bacteria in the oral cavity and their ingestion with the food.

To consider, in detail, all the reasons which render hygienic conditions necessary would fill pages, but I think we may safely cover all causes under the term of neglect, while the many other so-called causes can be prevented or at least greatly minimized by strict adherence to oral hygiene.

This neglect is then the grand cause.

It is now recognized what a great influence the condition of the oral cavity has upon the general health of the individual, and it is, therefore, doubly important that we should know and be able to explain the causes and their prevention as well as their effects on the general health. Especially is this so when we see so many people who are "ignorant of the fundamental notions of the natural and medical sciences."

We know that at birth we enter, for the first time, a bacteria-laden atmosphere, and that also during childhood the tissues offer the least resistance to the action of bacteria. Accordingly, it is at this time that the primal and greatest amount of care should be exercised.

Instead of this being the case, it usually happens that this is the period of greatest laxity of hygienic care, and merits our noblest endeavors for the correction of this condition.

Why do the periods of infancy and youth present such necessity for extremely careful treatment in oral hygiene?

During these stages the child is accommodating itself to its new surroundings, while at the same time sufficient nourishment has to be provided, not only to sustain life, but also to supply means for the ever-increasing growth until such time as normal growth ceases.

How is an unhygienic oral condition going to affect the child?

Those bacteria to the action of which infants are most liable are the ones which produce fermentative products. When these enter the stomach with the food what do we get?

Well, we all know of the unfortunate colicky and dyspeptic baby, with its rueful series of woes. Are the results of these conditions only of a temporary character?

Unfortunately, often, no!

This diarrhœa may often go on to a condition of marasmus, possibly resulting in death.

Again, cases have been reported where, it is believed, the intense irritation caused by the reflex from the intestines to the nervous centers has resulted in the inception of epileptic attacks, and these have been recurrent at different periods during the lifetime. Again, the consequent disorders of abnormal dentition are by some authorities attributed to intestinal troubles instead of *vice versa,* and I think it is more than probable that if strict attention is paid to oral hygiene at this period the troubles of eruption will be markedly lessened.

Beside these disorders of digestion and of the nervous system we may get irregularity of the teeth or even of the maxillæ themselves.

How, then, are we to treat this infant mouth from a prophylactic point of view?

First, impress these ideas on the mother's mind and then instruct her in the proper use of antiseptics about the mouth and thorough sterilization of the feeding apparatus.

We now come to a condition where the mouth is encumbered with teeth, and the operation of keeping it clean necessitates more than the application of antiseptics to its free surfaces.

Here also, as in all cases, neglect is the grand cause, but, as everyone's mouth may be said to be infected, it resolves itself into the best prophylactic means which will keep the mouth as sterile as possible, since the conditions which are favorable to the life and growth of bacteria cannot be entirely removed.

But let us consider what may result to the person from failure to keep his mouth in an hygienic condition.

First, let us put dyspepsia as being the most frequent disorder. Indeed in so many ways does dyspepsia manifest itself in different individuals, that it often becomes extremely difficult to trace the symptoms to their proper cause.

The most frequent sign, however, is a general depression or weariness, similar to that caused by a disordered functional activity of the liver.

Dyspepsia may be induced in two ways, thus:

(1) By entrance of the bacteria, directly, along with the food into the stomach.

(2) If the teeth have become carious to any great extent or the gums badly affected, then poor mastication will result. The food does not carry enough ptyalin with it to induce a sufficient secretion of gastric juice to act on the improperly prepared bolus, and by reason of the longer time necessary for the food to remain in the stomach putrefaction is set up and its products absorbed into the circulation, causing some of the many symptoms of malnutrition.

Other local results from a careless hygiene of the mouth may be caries, toothache, loss of appetite, loss of sense of taste, when the quality and state of preservation of food cannot be ascertained, and fetid breath.

Dr. L. Ashley Faught has said that failure in operations is mainly due to:

(1) Incompatibility of filling material with tooth structure.
(2) Defective manipulation.
(3) Lack of oral hygiene.

It must not be overlooked that in times of disease a septic mouth is a source of added danger.

What treatment are you to give these cases?

Before working out your treatment, I want to remind you that when this unhygienic condition has existed for some little time some of the resulting disorders are sure to be present, and then simple measures of oral hygiene will not be sufficient. The particular accompanying disorder must be cured as well as the mouth rendered as hygienic as possible.

In the treatment, you have recourse to the many antiseptic and alkaline mouth-washes, powders, instruments, and medicaments for removing stains, accumulations, and accretions, and each one must apply what his experience teaches him is best for the particular case.

Besides this, it is most important to conclusively and firmly explain to and satisfy your patient of the necessity for measures of oral hygiene.

Not only the health of his teeth, gums, and mouth, but also his general health and happiness, and often also the happiness of those around him, may depend on the proper care taken of his mouth, not only by the dentist, but by himself as well.

To bring about this hopeful state of affairs, it is necessary that the dentist should make himself well informed on this subject and spread it broadcast.

In order that the dentist may obtain the best results, he should advise his adult patients to visit him at least once in six months, when he will have the opportunity of altering or adding to his treatment as indicated and also of performing such dental operations as may present themselves.

Children up to the ages of twelve years should make yearly visits to the dentist, but about the age of puberty—14 to 16—the visits should be more frequent, about once in six months.

Finally, I would remind you of what Dr. Kirk has told us of this subject in relation to its effect on mercurial stomatitis. He says that the mercury causes a lowering of the resistance of the tissues about the teeth, which then become a seat for the introduction of bacteria, with their consequent evil effects, these bacteria being the result of the uncleanly condition of the oral cavity.

The truth of this has been demonstrated at the clinics at Blockley Hospital, when it was found that a speedy recovery from this stomatitis followed a careful cleansing and antiseptic treatment of the affected mouths.

Why?

THE mental attitude with which a student approaches his work should always be one of inquiry. With him the question, "Why?" is always in order, because it is the knowledge of *why* he does certain things that raises his work above empiricism; therefore it matters not how complicated or how efficient his method of work, if it is not the outcome of the use of his reasoning and understanding faculties, it cannot lay claim to be anything better than mere empiricism.

Students are too apt to receive the statements and methods of their teachers as axioms which need no proof, and to repeat those statements and methods without in the least understanding the why and the wherefore and without making any use of their reasoning faculties.

Scores of students graduate and swell the ranks of the dental profession, whose methods of procedure are identical with those of the highest men in the profession, but they do their work by rule of thumb, so to speak, and if asked to explain *why* they do so and so, reply, "Oh! that's Professor Blank's method" or "That's the way we were taught at college."

Are these men anything better than empirics?

They may work honestly and industriously at their profession, but they must ever be handicapped and render less efficient service because of the lack of reasoning, without which they are unable to handle each case in the best possible manner.

Who is responsible for this?

Some will say that the student should ask the reason of methods he does not understand. Quite so, but remember he is only a student and can hardly be expected to know what is best for him; *he* does not realize the importance of the principle at stake. But those who profess to teach him know, and it is their duty to impress upon him that importance and to give him reasons whether he wants them or not, and to see that he fully grasps those reasons.

Few teachers realize the heavy responsibility that they assume when they take it upon themselves to act as guides into their own profession or branch of knowledge.

The great privilege of training young minds is one which is accompanied by a corresponding degree of responsibility.

The teacher is not responsible alone for the development of the young intellect while directly under his instruction, but also for its future growth and progress to a full maturity, which will, to a large extent, depend on his giving it the proper initial impulse.

It is too generally accepted that because a man knows something he is qualified to teach that something to others. Knowledge certainly is the first requisite, but there is something else which is a *sine qua non* of success in the instruction of students; that is, the rare gift of being able to transmit that knowledge to others in an intelligible form.

It is not sufficient that the student shall be able to remember mere statements or methods of his teachers, but he must be able to support those statements and methods by a chain of reasoning similar to that used (mentally at least) by his teachers. It is too often taken for granted that the student will see the relation between cause and effect; that he will be able to piece his rapidly accumulating knowledge of facts and theories into an intelligible whole.

A demonstrator, in giving his advice, should always explain the mental process of reasoning by which he has arrived at that conclusion. It may take longer at the start, but later on the student will begin to exercise his own brain, and so refrain from troubling the demonstrator so often, where a little thought will enable him to work the problem out for himself. Some teachers don't like to be worried with questions. Such men are not worthy to bear the name of "teacher." One of the most encouraging signs to an instructor should be spontaneous questions from his pupils, not impertinent or unthinking ones, but thoughtful questions, the outcome of a genuine desire to get to the root of the matter.

This state of things can only be brought about by the persistent and untiring efforts of the teacher to cultivate in the minds of his pupils an appreciation of the importance of having a reason for every detail of their work, and he should assure himself that the pupils follow out this principle by continually inviting questions from those who do not fully understand any point, and by asking questions of the students.

HERBERT C. VISICK, '03, L.D.S.

PRACTICAL SUGGESTIONS.

Quick Pickle.—Place work in a glass and nearly cover with hot water. Pour in as much pure sulfuric acid as you have water, and by this time your piece will be clean.—OLIVER MARTIN, *Dental Review*.

Operating for Children.—Every kind word and act, every lost moment, and every self-sacrifice, if judiciously expended in our dealings with our child patient, will surely return to us like bread cast upon the waters, and will insure everything that is desirable in the later years of practice.—CHAS. A. VAN DUZEE, *Dental Surgery*.

Adrenalin Chlorid.—This is a drug which deteriorates very rapidly, and should be used within a short time after the bottle is opened, else it becomes acid and very irritating.—DR. SHEEDY, *International Dental Journal.*

To Remove Broken Drill from Root-Canal.—Saturate a pledget of cotton with 25 per cent. pyrozone and seal in canal with gutta-percha for at least three or four days, when the drill will be found completely rusted and loosened so that a forcible injection of water from a bulb syringe will readily effect its dislodgment.—S. J. FERNANDEZ, *Dental Cosmos.*

Putrescent Pulps.—For putrescent pulps which are still quite sensitive upon touch of broach, a mixture of tannic acid with glycerin will in a few days so toughen and tan the pulp that it may be removed entirely, and with little or no pain.—A. F. STRANGE, *American Dental Journal.*

Physical Contact.—We should restrict physical contact to the smallest possible limit. To lean on a patient is altogether unnecessary. To rest one's elbows on a lady patient is unpardonable vulgarity.—MARK G. MCELHINNEY, *Dental Review.*

Repairing Amalgam Fillings.—If it is desirable to add to an old amalgam filling, clean the surface to be added to with a bur, cross-cut in preference, wipe the cleaned part of the amalgam with a piece of cotton-wool moistened with concentrated phosphoric acid, and pack on the new amalgam, which will adhere with no trouble. Such a joint has about 80 per cent. of the strength of the amalgams used.—*British Dental Journal.*

The Ideal Gold Filling.—The ideal gold filling will have its margins carried into the region of comparative immunity; will be perfectly adapted to the walls of the cavity, making an absolutely water-tight filling; will be so dense that its specific gravity shall be close to that of cast gold; so contoured that it will preserve the interproximal space; so antagonize the occluding teeth that it will have the greatest usefulness consistent with safety; and, finally, will be finished and polished like a mirror.—J. V. CONZETT, *Dental Review.*

Never Use H_2O_2 in Closed Cavities.—Never introduce H_2O_2 into a cavity unless the opening leading to it is sufficiently large to allow for an immediate escape of the gas formed.—DR. M. C. CRYER.

Sealing a Cavity with Cotton and Sandarac.—Cotton soaked in sandarac, if left in a cavity for several days, becomes very foul. If oil of cinnamon is added to the sandarac it will be much less objectionable.—*Dental Review.*

Removal of Rust from Instruments.—Place them over night in a saturated solution of zinc chlorid. The rust disappears through reduction. Rinse in hot water, place in a hot soap and soda solution, and dry. Polish with absolute alcohol and chalk.—*Pacific Medical Record.*

"I am of the opinion, and have been all along, that prophylaxis is to be the main object in the future of dentistry. It won't put money in our pockets, but it will put health and comfort in the mouths of our patients."—DR. TRUMAN.

Talcum for the Hands of Operators.—Violet talcum powder in a small quantity is useful to dry the hands after washing, and serves a double purpose of giving a pleasant odor to the hands and in winter helping to prevent the chapping due to frequent washing.—GRAFTON MUNROE, *Springfield, Ill.*

To Prevent Adhesion of Very Soft Cement to Instrument.—Smear the instrument with phosphoric acid before allowing it to come in contact with the cement.—A. M. WAAS, *Dental Review.*

Ancient Dentists.—Recent excavations in Rome show that dentistry was practiced many centuries ago. On the Via Rosella, which existed at the time of the old Roman Republic, a cave has been opened up which disclosed a number of graves set in niches. One skeleton of a woman was found with a perfectly modeled set of gold teeth.—*American Medicine.*

To carry cotton into a root canal take a smooth broach, heat it, touch it to wax, then wrap the cotton around it, when it will stick.—DR. W. R. CLARK, *Cosmos.*

A Cheap and Handy Asbestos Block.—Take about a yard of asbestos rope, to be obtained at any hardware store, and make a flat coil of from three to four inches in diameter. Cover with a mixture of plaster of Paris and pumice, with some shreds of asbestos fiber. While still soft, insert as legs three flat-headed nails to form an equilateral triangle. Can be used on any table without danger of burning the wood.—*Dominion Dental Journal.*

To Prevent Displacement of the Rubber Dam on Lower Molars and Bicuspids.—In applying the dam to lower molars and bringing it forward to the first bicuspid, it is sometimes the case that the tendency of the lips is to force the dam from the teeth. In cases where the lips naturally fight the dam in this way, a secure method of holding the dam in place and out of the operator's way is to use a clamp, not only on the molar, but on the first bicuspid, reversing the clamp so that the bow looks forward instead of backward. This will at once simplify an otherwise complicated and annoying situation.—B. D., *Dental Review.*

Method of Cleaning and Polishing German Silver.—German silver is very often used in dentistry, but is rather hard to swage and polish. While working this metal I anneal it by heating to a red heat and plunging in a solution of oxalic acid. This cleans and softens the metal better than any method I know of. When the appliance is ready to polish I employ Burneshine or Solarine instead of pumice or whiting. I accidentally discovered this method, and find it effective.—C. J. HADLEY, *Dental Review.*

Dentistry has established and prolonged the reign of beauty; it has added to the charms of social intercourse, lent perfection to the accents of eloquence; it has taken from old age its most unwelcome feature, and lengthened enjoyable human life far beyond the limit of the years when the toothless and purblind patriarch might well exclaim, "I have no pleasure in them."—DR. OLIVER WENDELL HOLMES.

The Teeth that Need Attention First.—I say to my patients, "If for any reason you wish only two or three teeth filled, and those which need it most, I will immediately, after careful inspection, fill the three teeth which have the smallest observable points of decay, thus preventing those teeth from becoming bad; the very bad ones will only get a little worse."—A. E. BALDWIN, *Dental Digest.*

The Mechanical Separator.—If we explain to the patient the necessity of space, the advantages of the separator over perhaps days of slow wedging; if we assure them that we will not carry the pressure beyond the point of reasonable endurance, and will consult them as to the degree of pressure easily borne, we shall have very little trouble in the use of this most valuable assistant.—GARRETT T. NEWKIRK, *Dental Summary.*

Delicacy of Manipulation.—One of the most practical things that can be taught to young operators is the necessity for developing a delicate touch in their manipulations about the mouth. Patients are becoming more and more discriminating about such things, and they rebel against an operator who is unnecessarily rough. The mere examination of the teeth is frequently made a disagreeable, if not painful, procedure through the rude manner in which the lips are forced back and the mirror is jammed about the mouth. A little delicacy on the part of the operator, particularly at the beginning of any sitting, will help the patient wonderfully and inspire confidence. It will also be more highly appreciated than many operators realize.—E. D., *Dental Review.*

Extracting Frail Roots.—Frequently frail roots can be filled with a quick-setting cement just before extracting. This lessen the danger of crushing them with the forceps, but, of course, time must be allowed for the cement to set. Care should be taken to avoid forcing the cement beyond the apex.—ABRAHAM M. WAAS, *Dental Review.*

Monstrous Molar.—One loose tooth in the skeleton of a mastodon recently discovered in the Yukon, and about to be exhibited at St. Louis, measures 12 inches in length and weighs 12 pounds.

Inserting Cotton Dressings in Root-Canals.—The rolling of cotton upon the broach is done by first laying a few loose fibers upon the forefinger of the left hand. The broach is placed upon it, allowing a few fibers to lie beyond its end. Next, the thumb is lightly pressed upon the broach. The shank is then quickly rotated with the right thumb and forefinger, and as the cotton is rolled up the left thumb and forefinger are used to stroke it into a symmetrical cone. If the pointed broach be used, it will be noted that there is a tendency on its part to penetrate the end of the cone of cotton. This may be obviated by slightly truncating the end of the broach with scissors. This penetration of the cotton is annoying, from the fact that apical tissues are liable to be irritated, and that the broach is liable to be stripped of the cotton, which crowds back upon it as it comes into friction with the canal walls. In use as a dressing carrier, the broach is constantly twisted to the right, if twisted at all. To remove cottons it may be twisted in this manner into the loose fibers until these are tightly engaged, but, as a rule, an old barbed broach or cleanser is preferable for this purpose. Anyone who has used as a cotton-carrier a broach which requires a wire brush or burning off to free it, will be much relieved by the adoption of this method.—OTTO E. INGLIS, *Stomatologist.*

How to Finish Gold Fillings.—Many a young man has wondered why his filling did not finish up like the filling of some excellent operator whose work he has admired. If you see him, tell him that it is not that his ideal operator is so much more skillful than he. It is because he got tired out too soon, and failed to appreciate that all that was needed to make his filling finish perfectly was two or three large pieces of gold, covering the whole surface of the filling like a blanket, carefully laid on with a broad, flat, almost smooth-faced plugger; this to be followed by a very small point with which the surface is condensed. Tell him also for his encouragement that his ideal operator has not skill enough to put a perfect filling in the cavity where he failed yesterday, with no more room than he had. It is not that his ideal is so much more expert as a mechanic; it is that he knows that to fill the cavity perfectly he must have room, and without it he will not attempt the task.—F. MILTON SMITH, *Dental Journal.*

To Prevent Soreness of the Lips After Operating.—White perfumed vaseline will be found a most excellent preventive of sore lips from long and repeated applications of the rubber dam. Although many ladies object to its use, on account of the general impression that it stimulates the growth of hair, I find, upon explaining the good results from its use, the avoidance of the so-called cold sore, they will gladly submit to its application. Two covered porcelain jars with the pure white vaseline are kept in the operating case, the contents of one for use as an application around the mouth, the contents of the other for strips and disks. By cleaning the porcelain jars every day, and placing in them a small quantity of the pure clean vaseline, they are ready for use, and, if need be, the inspection of the most particular patient. It is the exception that the most fastidious lady, when handed the porcelain jar and the explanation is made for its use, will not apply it immediately, and later bless you for having suggested it. Undoubtedly the saliva saturating the skin and held there by the rubber plays an important part in addition to our pulling and stretching the mouth, in producing these disagreeable sores. In long operations, especially in molars and bicuspids, a second and third application sometimes is indicated, which can be made by loosening the dam from the holder, drying the corner of the mouth thoroughly with a napkin, then reapplying the vaseline. If applied to the lips when they are dry or cracked, it softens them to such an extent that much of the discomfort of an operation is avoided.—W. T. CHAMBERS, *International Dental Journal.*

EDITORIAL.

Advice.

NOTHING is easier to get than advice. Nothing requires more discrimination than accepting advice. There are two kinds of advice—the kind you pay for, which may be called professional advice, and the kind that is free, which you are sometimes pleased to call unprofessional. Each of these two classes may be subdivided into two classes—good and bad. Advice that you pay for may be bad and advice that you get free may be good. It is not always possible to tell good advice from bad advice. Advice is judged by its results. When Shakespeare said, "I like thy counsel, well hast thou advised," it must have been on a winning wager, but when he said, "Scorning advice, read the conclusion," he must have been on the wrong side of the market.

But the question of giving and receiving advice has a direct interest to students. Giving advice does not harm the giver, except as he may make himself obnoxious by the freedom and persistence with which he offers it. In receiving advice one cannot be too careful. The strongest mark of a strong personality is independence of thought and action. "Rely on yourself" is a maxim well worth remembering. The student in the laboratory and in the clinic runs across many strange conditions. He may do one of four things: (1) He may consult a demonstrator. (2) He may consult a fellow-student. (3) He may go ahead blindly. (4) He may, by careful observation and calculation, study out the thing himself. Which of these is best for himself and his future development? His fellow-student may know more about the case than he does, but he may know less. He runs the chances of receiving bad advice, and, in the event of his receiving good advice, he has benefited only that piece of work and not himself. To go ahead blindly is to be dismissed as unpardonable, although often done. In many cases he can, by careful study and observation, almost unravel the knot, and by then receiving a confirmation of his opinions, or even a correction of them from a demonstrator, he has mastered the theory and the difficulty, and has added to his power of observation, reasoning, and deduction, upon which he will have to depend when in practice.

The promiscuous, thoughtless, and annoying questions asked by many students of their fellows upon the simplest problems is a thing to be deplored. Again, Shakespeare says, "Nor ask advice of any other thought, than faithfulness and courage." A student who has heard the complete *modus operandi* of constructing a technic piece from the lecturer, and then must have personal advice upon every detail, is preparing the way for a rocky path in the future. The operator who has found certain conditions in a case, who has had these conditions and their cause and effect explained, and who fails to recognize them or cases similar but with slight variations, the second time is missing the main thing for which instruction is given.

It is so much easier to ask advice upon a subject and learn quickly a method of operation than to study the thing out for ourselves, that all are apt to do it, yet no one can but deny that such proceedings are not for our best interests. The Freshman, with but few ideas of his work, finds everything new and sometimes startling. Everything the lecturer says is new to him, and every move he makes is done in the dark. He must ask assistance and advice. Then comes the question of the professional and unprofessional kind. Remember that the Seniors don't know it all—don't think that for a minute. In getting advice from them you may learn an incorrect method which they have gotten in the same way and which you, receiving as your first impression of the subject, may form as a habit which may be detrimental to you throughout your whole professional career, or which you may have great difficulty in eradicating. First impressions are the strongest, and what you learn to do, learn to do in the proper way. Learn how to do your work, all the little intricacies of the profession which go so far to make the good dentist—learn all these from those who are supposed to know them, and are paid to instruct you. We are glad to say that our demonstrators are among the best, and we know we will not secure their ill will by telling you, Freshman, to make good use of them. Finally, to advisers and advised, I would again quote the immortal bard: "Inform yourselves; we need no more of your advice."

The "Journal."

THE JOURNAL is one of the few University papers that are run without financial troubles. When given his charge by our worthy predecessor, the present editor was given this admonition, "Don't attempt to improve upon previous editions. The JOURNAL is now as large as the present subscription list will justify, and if you attempt to improve upon it you will find yourself in the hole." Although it might be our ambition, yet we doubt if it is in our ability to improve upon the work of such worthy predecessors as Lewis, Ash, etc., in quality, and we doubt much whether an increase in quantity would be appreciated by our readers. Nevertheless, we take our cue from the admonition, and transmit the inheritance to our subscribers.

The JOURNAL is at present issued at a cost slightly under its income. To increase its efficiency in any way means an increased expenditure. To maintain it at its present form we must have the hearty co-operation of the student body and alumni that we have had in the past. Any increase in its efficiency must come from an increase in its income from you, and any let-up by you must result in its deterioration.

Therefore, we call upon every student and alumnus who is interested in the University and its institutions, to help the cause along, that the JOURNAL may be maintained as one of the few successful University papers, both as to its financial standing and its literary value.

The "Journal" Staff.

THE present board of editors accept the honor conferred by their appointment to their present positions with doubt and tremblings. It is putting in the balance, on the one hand, ambition and the honor, and, on the other hand, the great amount of extra work assumed, the neglect which it will occasion to our student work, and the responsibility for the successful continuance of the paper.

However, we have accepted the bad with the good, and we ask the indulgence of our subscribers in our mistakes and their hearty co-operation with us for the success of our undertaking. The JOURNAL is a paper edited by students; its contents consist mostly of student contributions, and to the students we must look for our material. The editor, assuming the office of associate editor in the middle of the last year, was not introduced with plaudits in the editorial column. We will assume our office without these. Dr. Lane as Alumni Co-Editor needs no introduction. In the laboratory he is known to all. By his attention to business and hustling he has, in the last two years, greatly increased the subscription list among the alumni. He has ever been a willing worker, and we wish to thank him for the able assistance he has given new hands in the publication of this first issue.

Walter T. Barry, '06, is the Junior Associate Editor. Mr. Barry has been re-elected President of his Class, which shows his popularity, and is in every way fitted for the position. Mr. F. P. R. Barker, '07, is the Freshman Associate, and has yet to prove his ability, as he was but recently appointed.

Mr. Senior, '05, as business manager, was of great assistance to Mr. Gold last year, and has proved his ability by having his material for press as soon as needed by the editor. Mr. Greenberg, is the assistant business manager from the Junior Class, and he has the name of being a hustler.

Owing to the lateness of the Class elections, Dr. Kirk, who always consults the Class Presidents in these matters, was late in making these appointments. In consequence of this, the work of the first edition fell upon a few and was consequently delayed.

With the Editorial Board in working order and a good, willing Advisory Board, the JOURNAL looks forward to a successful and useful year.

The Freshmen.

THEY are with us once again, the Freshmen. They are a needful article. If they had any fear and trembling regarding their treatment as such, it should have been dispelled by their hearty reception at the smoker. The JOURNAL extends its greeting, with the others, to the Class of 1907. But a word of warning will not come amiss. This is a school where endeavor alone will win. Many are the sensations in the hearts of the various beginners in the study of dentisty. Some, astonished by the almost innumerable technical names to be learned in anatomy and the impenetrable dark clouds presented by chemistry, are scared by the pile of work presented, become fearful and nervous over the outlook, and see nothing but failure before them. Others take everything with stolid indifference. Examinations have no terrors for them, and they pass the time without thought of the morrow. Others may put off until to-morrow—have a good time, are hale fellows, well met, and their only thought is, Sometime I'll begin in earnest, and that sometime is generally about two weeks before vacation. There is only one logical course to pursue: (1) Don't worry. (2) Don't loaf. Begin at once to work. Have your fun, but work. You don't have to work all the time, but work. If things don't seem to come at once, don't worry. The man of ordinary intelligence, who started in the beginning of the term and studied with any amount of concentration and fidelity, need have no fear of the examinations. But they will come and you must be prepared for them. Where the economy is, of putting off studying until a short time before examinations and of then grinding, we cannot surmise. It means at least a month of continuous grinding and worry; it means probable failure and the consequent worry and care of the re-examinations. It takes the time from your second term work and leaves you poorly prepared for the two following years.

The work of the second and third years depends a great deal upon the work of the first year, and he who gets his first year's work thoroughly can look for comparatively easy going in his succeeding years.

While the upper Classes extend cordial greetings to the new Class, and treat them with respect, the new men must not take it for granted that this means that they are entitled to everything. There are many things that Freshmen, as such, should do, and there are many things that they, as such, should not do, and they can maintain the harmony of the Department by doing their share. May the Class of 1907 ever live up to the traditions of the Department and of the University. May they ever do their share to maintain the honor and prestige of Old Penn, whether on the gridiron or bleacher, in the class room or in the wide world. Act as if the honor of the whole University rested on you, individually, and thus so inspire your successor that the Pennsylvania spirit, on the field or water, in dentistry, medicine or law, may never die.

THE DEPARTMENT.

Dr. Jenkins' Lecture on Porcelain.

Dr. Jenkins, of Dresden, Germany, addressed the students of the Department on the evening of October 6th, on "Low-Fusing Porcelain as a Filling Material," and he put before them, in a very clear and concise manner, its advantages as such. He spoke also of the history and development of this branch of the profession, and pointed out its great advantages over other materials, provided the work be accomplished with the same manual dexterity and skill as is manifested by so many American dentists in working gold. In addition to the prominent place this material has earned in Europe and in the British Isles as a filling material, Dr. Jenkins claimed for it a very useful and prominent place in the prosthetic department of the profession, and as a proof of this he showed several interesting and instructive pieces of work that had been constructed by him, and he was confident that in a few years porcelain would rank second to none in this class of work.

He gave a short account of the technique of the operations that he has adopted in the past years, and advocated strongly the use of alcohol in preference to the use of water in the mixing of the powder, stating that he had always gained better results by its use.

The specimens that he showed were those that he exhibited at the World's Fair Dental Congress, in September, and the students showed a keen interest in them, as they always do in any branch of the profession.

We had with us many other resident practitioners of the city, whom we are always pleased to welcome on similar occasions. Dr. Capon asked questions of Dr. Jenkins on the use of alcohol in preference to that of water. In addition to those mentioned above, we were also favored with the presence of some of the ladies.

We cannot miss this opportunity of again expressing our thanks to Dr. Jenkins for his address and his ardent labors in a branch of the profession that has needed such generalship and unselfishness and sacrifice as he has manifested in the past years. He carries with him the best wishes and greatest respect that students of this Department of the University of Pennsylvania can offer him, and, in return, we can do nothing better to please Dr. Jenkins than carry on the work he has started.

Dr. Miller's Lecture.

Dr. Miller, Professor of Bacteriology in the University of Berlin, was a recent visitor to the Department, and on October 11th lectured to the students on bacteriology. Dr. Miller is one of the Department's most noted alumni. He is one of the leading bacteriologist of the world, and it was with a great deal of pride as well as interest that his lecture was heard. He spoke mainly on his great specialty, the bacteria of the mouth and their relation to dental caries. He said that in regulations performed too rapidly a tooth may lose its vitality and the pulp become putrescent, the infection coming from the blood. Food of a starchy composition, when left between the teeth, will always cause caries of the first stage, lactic acid being formed, which dissolves the lime salts of the tooth structure. In the second stage bacteria lodge in the cavity formed by the dissolution of the tooth structure by the acid, and they, in turn, digest certain tissues of the tooth.

He then gave a prescription for what he considers the best and most powerfully antiseptic mouth-wash:

℞—Saccharin,	4 gr.;
Acid benzoic,	5 gr.;
Tinct. eucalypt.,	30 gr.;
Alcoholis abs.,	100 gr.

Sig.—One teaspoonful to a glassful of water. Mouth-wash.

Class Officers.

THE three Classes have held their elections, with the following officers for the current year:

Senior Class.—President, Wm. G. Cook; vice-president, Wm. G. Young; secretary, D. P. Taggart; treasurer, F. P. Layman; sergeant-at-arms, E. S. Stevenson.

Junior Class.—President, Walter F. Barry; vice-president, Wm. G. Martens; secretary, Edw. Thos. Gibson; treasurer, Fred'k Ratzburg.

Freshman Class.—President, N. E. Sprague; vice-president, T. S. Cooney; secretary and treasurer, H. P. McPherson.

Provost Harrison's Reception to the Freshman Classes.

THE reception at the Museum of Archæology, given by Provost Harrison and his wife to the Freshmen of all the Departments, was enjoyed by all attending. Other members of the Faculty were present, and the hearty manner in which the welcoming hand was given to the students was certainly felt and appreciated by all as one of the occasions that betoken and strengthens the spirit of an institution exceeded by none.

In the earlier part of the evening the boys strolled through the galleries, feasting their eyes upon relics gathered from all parts of the world, and indulging, meantime, in social converse.

As the evening wore on the guests were happily apprised of the fact that eatables were awaiting them down stairs, where they repaired shortly and lunched on delicacies that would tickle the palate of an epicurean. Thus the evening was most profitably spent. The genial spirit of the Provost pervaded the whole gathering. Each man left with a feeling that can only be infused by the foster spirit of men capable of guiding an institution which so justly owns its place in the "City of Brotherly Love."

New Lectures.

VERY few changes have taken place in the Faculty or in the course of study for the following year. Dr. Peeso began his course of lectures on crown and bridge work, these taking place Friday afternoons. Mr. Jones gave a series of lectures to the Seniors on porcelain inlays, and the insertion of one such filling has been added to the technic requirements. Dr. Lodholz returned from his summer course in Germany, and was advanced to be first assistant in physiology to Dr. Rechert, upon the resignation of Dr. Stewart. Dr. Dickey was promoted to Dr. Lodholz's position, and is demonstrator in physiology for the Juniors.

The Freshman Smoker.

ON approaching Dental Hall Friday evening, November 11th, it was easy to see that something out of the natural course of events was taking place.

It was the eve of the Freshman smoker, and the upper Classmen, together with the members of the Faculty and several distinguished guests, were to welcome the Freshmen of the Class of 1907.

Promptly at the appointed time the Senior Class, followed by the Junior and Freshman Classes, marched into the large lecture room.

The Freshman Class occupied the center section of seats, with the Seniors at their right and the Juniors to the left. The members of the Faculty and the guests, together with the officers of the Senior Class, occupied the seats of honor.

Soon the pipes, cigars, and cigarettes began to appear, and to the melodious strains of the orchestra the smoke began to ascend.

The Senior president, Mr. Cook, introduced as the first speaker of the evening "Dr. Truman, a member of the old school and one who has been associated with the Dental Department for many years." The Seniors rose to the occasion and gave three lusty "Hurrahs" for Dr. Truman. The doctor spoke briefly, his main topic being the proper treatment of the Freshmen.

Next came one who is beloved by the entire College and whose face is familiar to every student of the University, Vice-Provost Smith.

He gave one of his very interesting and highly entertaining talks, taking as his topic "Lest We Forget."

Mr. Hellman, '05, entertained with a flute solo, after which Dr. McKenzie, the director of the new gymnasium, was introduced. He spoke briefly of the work which was to be done in the gymnasium and expressed a desire to see the Dental Department well represented.

Dr. Darby was next introduced.

He spoke of the olden days and of the growth and development of the Department.

He was followed by Messrs. Thomas and Kline, who rendered a piano duet. Dr. Turner, the next speaker of the evening, addressed his remarks to the Freshmen, mingling with them spicy little anecdotes which were very amusing.

Mr. Burns, of the Medical Department, was next introduced, and rendered several vocal solos. He was followed by President Cook, of the Senior Class, who spoke a few well-directed words of welcome to the Class of 1907, and introduced President Barry, of the Junior Class, who welcomed the Freshmen in behalf of his Class.

President Barry was followed by the president of the Freshman Class, who very briefly responded to the welcomes which had been extended to his Class.

Pandemonium then reigned for a few moments, the Seniors endeavoring to give their Class yell and the Juniors trying to drown them. At last order prevailed, and the "Red and Blue" was sung, after which the Classes, led by the Freshman Class, proceeded to the assembly room, where refreshments were served.

Clinics at the Philadelphia Hospital.

DR. MATTHEW H. CRYER held his opening clinic for the 1904-1905 session on the 8th of October, at the Philadelphia Hospital, the attendance at the clinic numbering 200. Every succeeding Saturday there has been a noticeable increase in the number of persons attending these clinics, which are probably the most popular held in the city of Philadelphia. It is extremely doubtful if there are many clinicians in the city who can show an attendance roll of between 250 to 300 students each Saturday. Another factor going to prove the popularity of these clinics lies in the fact that all the dental schools in the city are well represented, as are also some of the medical schools.

At this first clinic, Dr. Cryer had three cases of fracture of the jaw, and lectured principally on these cases and fractures of the jaws in general, showing in addition a case of carcinoma of the tongue and its various attendant effects.

On Saturday, the 15th inst., there were present 258 persons, showing an increase of 58 over the preceding Saturday. Five cases were presented—two cases of fracture, one of lead poisoning, one abscess, and a case of suspected fracture, which was diagnosed by Dr. Cryer as a fracture of the mandible in the region of the angle of the jaw on the left side.

Saturday, the 22d inst., showed an attendance of 227 students. Dr. Cryer had three cases of lead poisoning, and lectured at length upon this disease; also one case of mercurial stomatitis and a patient from whom he extracted three teeth in the presence of the Class.

Saturday, the 29th inst., showed a very substantial increase in the attendance. Despite the fact that the Harvard football game had taken quite a number of University students to Boston, there were present 275 persons.

Dr. Cryer had four cases—one of secondary syphilis, showing the effects of this disease upon the oral tissues; one of fracture of the mandible from the kick of a horse (this latter was a remarkably successful case, as the patient received the fracture on a Saturday; in three days an admirable splint was in position, and three days later, the Saturday of this clinic, the patient was discharged from the hospital); one case of fibroma, with lesions of the brain; and the case of a patient, who last year had a cyst of doubtful origin, Dr. Cryer deciding not to operate. The patient was shown to the Class as having made a perfect recovery since his previous appearance before them.

DENTAL SOCIETIES.

James Truman Society.

The regular meeting of the James Truman Dental Society was held in Houston Hall, on November 3, 1904. This was the third regular meeting of the year. At the first and second meetings the reading of papers was deferred and the time devoted to the general discussion of the business of the Society.

On the evening of November 3d, Mr. P. A. Burton read an article on "Diseases of the Antrum." A second paper was read by

John Kirkham, Jr., whose subject was "The Filling of the Pulp Chambers and Canals in Devitalized Teeth." A very general discussion of both papers followed and many points of interest were brought out by the different members of the Society.

The Society was glad to welcome back one of its former active member, Dr. Vickers, of the Class of 1904. Dr. Vickers made some extended and interesting remarks on "The Treatment of the Maxillary Sinus in its Diseased Condition."

The Edwin T. Darby Society.

THE first meeting of the Edwin T. Darby Dental Society was held on the 17th of October, President Lamb presiding.

In the absence of Secretary Schiener from school, Mr. D. J. Thomas was elected to fill that position for the ensuing year.

The remainder of the evening was devoted to business of the Society.

On the evening of October 31st the second meeting of the year took place, at which time Mr. W. G. Young, '05, read a very interesting paper on "Advantages and Disadvantages of the Richmond Crown." This was freely discussed, and, after the election of new members, the meeting adjourned until November 14th.

At this meeting Dr. Jaco read a highly interesting and instructive paper on "The Introduction of Gold Fillings."

This was followed by the installation of the newly elected secretary, Mr. D. J. Thomas, and the initiation of Messrs. Morgan, '05; Moore, '05; Craver, '05, and Lowndes, '06, after which the meeting adjourned.

The Edward C. Kirk Dental Society.

THE first meeting was held in Houston Hall, October 24, 1904, it being a special meeting, the principal object balloting upon new members.

The next meeting was held November 3, 1904; the attendance was very good. Dr. Jaco, demonstrator of operative dentistry at the University of Pennsylvania, addressed the Society, his subject being the preparation of cavities and insertion of gold fillings. The talk was very interesting and instructive and the subject well handled, bringing out the minutest details which are so necessary to the success of such operations. The address was followed by a very energetic discussion. The enrollment of the Society is already large, and the present season promises to be one of the most successful and beneficial.

The Dental Alumni Meeting.

THE twenty-fourth annual meeting of the Dental Alumni Society of the University of Pennsylvania was held at Dental Hall, on June 13 and 14, 1904. Clinics and demonstrations introducing advanced methods in all departments of dentistry were conducted, as usual, on Monday afternoon of Commencement Week.

The clinicians were: Dr. G. Leonard Curtis, Dr. H. B. Cressman, Dr. M. H. Cryer, Dr. Jos. E. Duffield, Dr. John M. Fogg, Dr. Wm. Middleton Fine, Dr. Albert Gaylord, Dr. A. DeWitt Gritman, Dr. H. B. Hickman, Dr. T. B. Hayden, Dr. Louis Jack, Dr. J. G. Lane, Dr. John McClain, Dr. P. B. McCullough, Dr. Wm. McKay, Dr. Fred A. Peeso, Dr. H. C. Register, Dr. M. L. Rhein, Dr. R. H. D. Swing, Dr. M. I. Schamberg, Dr. Leon B. Tatum, Dr. S. Merrill Weeks, Dr. W. L. Winner, and Dr. John R. Yorks.

The manufacturers of dental supplies were allotted space in the laboratories on the first floor, where they exhibited new appliances and demonstrated methods for their employment. This was a new feature of the program this year, and promises to add considerably to the attractiveness of future meetings.

The scientific part of the program was followed in the evening by a banquet at the "Bartram." President R. H. D. Swing acted as toastmaster, and called upon the following speakers: Dr. J. Truman, Dr. E. T. Darby, Dr. M. H. Cryer, Dr. E. C. Kirk, Dr. M. L. Rhein, Dr. H. B. McFadden, Dr. W. D. DeLong, Dr. H. E. Friesell, Dr. F. E. Peeso, Dr. O. G. Lewis, Dr. W. C. Huff, and Dr. Z. Endglitz.

Prof. James Truman was presented with a handsome loving cup by the alumni. Dr. E. C. Kirk made the presentation speech and eloquently voiced the sentiments of the donors.

The business meeting of the Dental Alumni Society was held on Tuesday morning, June 14th, in the lecture room of the Dental Department. Dr. R. H. D. Swing, president, delivered the annual address. Many important matters therein presented were favorably acted upon by the Society.

Enthusiastic response was accorded the project to raise $50,000 for a James Truman Dormitory House; $2500 of this sum was promptly subscribed by the members present.

The following officers were elected for the ensuing year: President, Dr. M. I. Schamberg; vice-presidents, Dr. John M. Fogg, Dr. Wm. C. Marsh, and Dr. Ralph B. Reitz; secretary and treasurer, Dr. Victor Cochran. Dr. J. Edward Dunwoody was elected a member of the Executive Committee, and Dr. O. G. Lewis was elected to fill the vacancy created in that committee by Dr. Schamberg's election to the presidency. Dr. J. G. Lane was chosen co-editor of the PENN DENTAL JOURNAL.

Immediately following the business meeting a portrait of Prof. James Truman was unveiled in the large lecture hall. The collation followed.

During the afternoon many of the alumni attended the baseball game, while others less able to keep pace with the strenuousness of the program rested for the celebration which took place during the evening at the Triangle.

The Class of 1889 held a reunion at Essington during the afternoon and participated with the entire alumni of the Dental Department in their celebration at the Dormitory Triangle in the evening. The 1902 men turned out in a large body and held a reception in one of the dormitory houses.

This being the first year in which the Dental Alumni turned out in a body at the general reunion of the General Alumni Society, it was an occasion for much jollification, and its repetition is assured. It is to be hoped that this combined celebration will result in the enrollment of a larger number of the Dental men on the membership list of the Dental and General Alumni Societies.

M. I. SCHAMBERG, *President.*

'02 Dental Reunion.

THE first annual reunion of the Class of 1902 Dental was held on Alumni Day, in Room 21, Memorial. Those present were: Drs. Mehler, Winsmore, Wetzel, Bowen, Peters, Burrows, Laing, Mancill, Manley, Schultz, Daniels, Moore, Strang, Geary, Hinkle, Ogden, Collins, and Standen, while letters were received from Brental, McDermott, Graham, Wilson, Herr, Bigham, Gore, Joslyn, and McLachlan.

On Monday afternoon the Class attended the clinics in Dental Hall and the banquet of the Dental Alumni in the evening at the "Bartram." On Tuesday the Dental Alumni held their business meeting.

At the reunion in the evening speeches were made by Dr. Harry McFadden and Mr. John Reimold and an enjoyable evening was spent.

Echoes from the Smoker.

TREAT a man like a gentleman and he will be a gentleman.—DR. TRUMAN.

If you didn't learn anything else here at Pennsylvania, you learned to love your fellow-man.—DR. SMITH.

The exhibition of the Pennsylvania spirit which I have seen since I came has been a revelation to me, and the longer I stay, the greater is the revelation.—DR. MCKENZIE.

Wherever I go to attend dental society meetings I find our graduates, and they are occupying the prominent places in the dental profession.—DR. DARBY.

The chief part of education in the preparation for life is: (1) To learn to know yourself. (2) To learn to know your fellow-man. (3) To learn to adapt yourself to your fellow-man.—DR. TURNER.

Alumni Notes.

DR. J. W. WHITE, '87, has removed his office from 3329 Powelton avenue to Room 302 Crozier Building, 1420 Chestnut street.

Dr. M. J. Lillis, '03, has located in the Jersey City Trust Company Building at the Five Corners, Jersey City.

Dr. W. D. Macdonald, '04, is associated with Dr. Wm. E. Hoag, at 8 East Forty-third street, New York City.

Dr. F. R. Getz, '04, is associated with Dr. Rhein in New York City.

M. S. Bennett, '05, and F. P. Layman, '05, not being able to carry the burdens of a Senior, single handed, have taken unto themselves life partners.

Dr. Wm. C. P. Hough, '04, was secretary of the Department of Anatomy and Physiology at the Fourteenth International Dental Congress at the World's Fair.

Dr. L. E. Squires, '03, was married on December 15, 1903, at Philadelphia, to Miss Carrie E. Towns, of Lock Haven, Pa. Dr. and Mrs. Squires will reside in Spokane, Wash.

Dr. G. F. DeLong, '03, is associated with his uncle, Dr. W. D. DeLong, '94, at Reading, Pa.

Dr. F. H. Kew, '03, is practicing at 39 Queen's Road, Hongkong, China.

Dr. E. C. Payne, '03, has located at North Adams, Mass.

Dr. C. J. Van Dyke, '03, is practicing at Wyalusing, Pa.

Dr. W. C. Lotz, '03, is practicing at 110 Fourth avenue, Seattle, Wash.

Dr. Chas. M. Wharton, '96, of Delaware, assistant coach of the football team, was married during the last year to Miss Margaret Paige, of Baltimore. Dr. Wharton is practicing in Dover, Del. He is now one of the coaches of the football team.

Dr. O. G. L. Lewis, '04, associated with Dr. M. B. Culver, is practicing at 1529 Locust street, Philadelphia. Dr. Lewis was in his Senior year at Pennsylvania editor of the JOURNAL.

Dr. L. R. Mahaffey, '04, is located at McKeesport.

Dr. Edward Meyers, '04, is located at Meyerstown, Pa.

Dr. A. S. Burke has changed his address to 325 Chestnut street.

Dr. Wm. A. Gunn, '04, and Dr. E. W. Vickers, '04, took Angle's course in orthodontia at St. Louis. They were recent visitors at the Department.

W. G. Cook, '05, and A. S. Sandstein, '05, have been appointed resident dental surgeons at Blockley Hospital by the city authorities.

Fred Scheiner, of the Class of 1905, has given up dentistry and gone into business.

T. Okumura, a graduate of the Tokyo Dental College of Japan, is taking a post-graduate course here.

Dr. Marquis D. Littig, '94, secretary of the New England Alumni Society, has been appointed demonstrator of operative dentistry at the Harvard Dental School.

Dr. J. W. Rawlins, '99, is located at 1612 South Eighth street, Tacoma, Wash. He is secretary of the Washington State Dental Society.

Percy A. Ash, '03; E. F. Deck, '01, and Wm. Morton, '99, are demonstrators in the Dental Department of the University of Sydney, Australia.

The JOURNAL is greatly indebted to Dr. A. H. Reynolds for the gift of a number of old copies that are out of print. These numbers complete two sets of the JOURNAL from its first issue. They have been bound, and one set will be presented to the University library and the other kept in the JOURNAL office for reference, and can be consulted by students at any time in the office.

Dr. P. H. Markham, '04, was married on July 28th to Miss Lena Hoose, of Mexico, N. Y. They are now located at Syracuse, N. Y.

Dr. Jas. A. Patten, '04, is located at Carbondale, Pa. He expects soon to be as successful as his chum, Dr. Markham.

Dr. A. B. Vastine, '04, is located at Lewisburg. Same remarks apply.

Dr. R. W. Waddell, '98, was married, October 12th, to Miss

Sarah Alice Phelps, of North Kingsville, Ohio. Dr. Waddell has spent over three years as a dental surgeon with the army in the Philippines, but has recently been transferred to Fort Leavenworth, Kans.

Dr. R. Clifford Smith was married recently to Miss Mabel Brooks Jordan, of Tacony, Phila.

Drs. Dunwoody, '88; Eglin, '97; Weeks, '00; Gaylord, '98; Parry, '96; Dowden, '96, and Marsh, '96, are all the proud fathers of very young daughters.

Dr. Irving W. Brown, '04, is associated with Dr. V. B. Littig, at 61 West Seventieth street, New York City.

Dr. W. E. Drumheller, '02, is located at Berwick, Pa.

Dr. Walter H. Fordham, '98, and Dr. Geo. Luxemburger, '89, both of Scranton, were recent visitors to the Department and spectators at the Penn-Indian game.

Dr. H. P. Feldman, '99, Pen Argyl, Pa.; Dr. Owen Woolley, '01, and Dr. R. H. Clifton, '00, Smyrna, Del., came back Saturday to see Penn's champion team play the Indians.

Dr. H. L. Hillegas, '99, Wilmington, Del., is now located at Casella, 241, Santiago, Chili.

Dr. E. Schiffmann, '91, of Paris, was a recent visitor to the Department.

Dr. Jas. H. Noble, '83, of Hong Kong, China, is visiting his home at Carlisle. He attended the World's Fair, and while in this city visited the Department and was a highly interested spectator of the Penn-Indian football game, the first he had seen since leaving the University.

Dr. Jean C. Whinnery, '00, of Omaha, was a recent visitor to the Department. Dr. Whinnery is dental surgeon in the United States Army, and was in Samar, in the Philippines, during General Smith's campaign. During the last two years he has been stationed at the First Reserve Hospital, at Manila, P. I.

Dr. Raphael Loberdesque, '99, is located in Paramaribo, Dutch Guiana, S. A.

Dr. W. A. Morrison, '03, is associated with M. Martinier, 10 Rue de Richelieu, Paris, and has been appointed demonstrator at the École Dentaire.

Dr. L. S. Marks, '04, is associated with M. Masson, '04, Paris.

THE UNIVERSITY.

THE complete registration in the University this year is 3090. Last year it was 2692, showing an increase of 398.

SINCE the administration of Provost Harrison began, in 1895, almost $7,000,000 has been given to the University. Most of this amount has been secured directly through his influence.

THE JOURNAL is indebted to *Old Penn* for the loan of the cut of Dr. Smith and other favors.

DEMONSTRATORS must observe the rules of the Department. It is reported that Dr. Weeks was recently ordered out of the extracting room for not having on a white coat.

ON account of the great increase in the administrative work of the University, the Trustees appointed Mr. Clayton Fotteral McMichael, '91, as an assistant to the Provost. Mr. McMichael entered on his duties November 14th. He is one of the leaders in the Mask and Wig and was one of the founders of the *Red and Blue*.

JOHN M. PATTERSON, '96, was appointed a special assistant in the office of District Attorney of Philadelphia. The District Attorney force now consists of John C. Bell and seven assistants, all of whom, except two, are graduates of the University of Pennsylvania.

A GRADUATE of a prominent medical college in New York City, while visiting in September a friend who is a member of the College Faculty of the University of Pennsylvania, was shown through the new medical laboratories. Before leaving the building he declared that words could not express his admiration, and wrote and presented a check for a generous amount as an expression of appreciation.

THE announcement has been made of a gift of $100,000 to the Veterinary Department. This will place that Department on a plane with the equipment of the other Departments and should make it one of the best.

The Medical School.

IT never rains but it pours. Honors seem to pour upon the University of Pennsylvania Medical School, and the Dental Department rejoices in the fame of her most closely allied sister.

The results of the examinations for residents in Blockley in the spring are well known. Twenty-five out of the forty-five who passed the examination were Penn men. Not one Penn man failed.

Of the nineteen positions which were given to the first men in point of average, seventeen were secured by Penn men. Later came the announcement that the leader and the highest general average in the Pennsylvania State Board of Examination went to Pennsylvania.

For the past five years the highest honors before the North Carolina State Board went to Penn. Then came the final announcement of the statistics collected by the Pennsylvania State Medical Association, in which it was ascertained that from statistics taken from the reports of the thirty-seven States having State Board examinations, the graduates of the Medical Department of the University of Pennsylvania stood first.

All hail the Medical Department of the University of Pennsylvania!

The University Christian Association.

THE University Christian Association tendered its annual reception to incoming men of the Dental Department on the evening of October 17th, and the upper hall of Houston Club was comfortably filled by about a hundred new students.

Addresses of welcome were made by Vice-Provost Smith, Dr. Kirk, Dr. Darby, and Dr. McClain, who warmly commended the work of the Association and told of its power for good. After brief speeches from Mr. Evans, the general secretary, and Mr. McEwen, the Dental vice-president, the rest of the evening was devoted to social intercourse and the making of acquaintances. Musical items were contributed by Messrs. Thomas, '05; Cline, '05, and Ashplant, '05, and were much appreciated. After partaking of refreshments, the new sons of Old Penn wended their way homeward, with a new insight into the Christian activities of their alma mater.

The various branches of the Association work are being undertaken this year with zeal, and Bible study classes have been started in each class in the Department. Mr. Neill, '05, has been appointed to take charge of our interests in the settlement work, and will be glad to hear of volunteer workers for the winter evenings. The work in the University Christian Settlement is largely of a social nature, and should appeal to many men of the Department who desire to help the lads of our congested city districts to make the most of the opportunities which the clubs under the Association's control present.

The Sunday morning services in the auditorium of Houston Hall will this year be addressed by the most noted preachers in the

Eastern States, and the list includes such men as Dr. Van Dyke, of Princeton; Mr. John R. Mott, who will conduct a special series of meetings on December 4th and 5th; Mr. Robert Speer, and the best preachers of the city.

A very cordial invitation is extended to all new men to participate in the general and special work of the University Christian Association, and the JOURNAL heartily commends to every incoming student the opportunity offered to do during his University course, in a quiet and unassuming way, something toward leaving the world better than he found it.

Sporting Notes.

THE interest manifested in athletics at Pennsylvania this fall is the keenest in years, and especially is this true of the football season. As usual the Department is well to the front in athletics, and our representatives occupy places on all the 'Varsity teams.

FOOTBALL.

At last, after several years of expectation and disappointment, the heart of every Pennsylvanian throbbed with joy on the 29th of October, when Harvard went down to defeat at the hands of the Red and Blue. It was one of the most decisive victories of the year, and, although the season is not yet finished, the comparatively easy way in which we defeated Lafayette and the Indians places Penn at the head of the championship ranks, provided Cornell is defeated on Thanksgiving day.

If Yale succeeds in defeating Harvard the glory which Penn has won will not be lessened, while, on the other hand, if Harvard wins, our success will be still more emphasized.

Our representatives on the football squad comprise: Kase, '05; J. Hollenback, '05; Lemis, '05; Weede, '06; Roberts, '06; Bradley, '07; Longwell, '07, and W. Hollenback, '07.

ROWING.

There has been considerable interest manifested in the rowing circles this year, and each Class has had its crew working on the river since early in October. The Interclass races this year were the closest and most exciting for several years.

The championship of the Department was won by 1905 by a good margin.

In the Interdepartment and Interclass races the 1905 crew finished third, after two of the closest races ever held between the Departments.

The make-up of the crews were:

Senior.—Bow, Hervey; 2, Gresham; 3, Campbell; 4, Donahower; 5, Volker; 6, T. F. McDonald; 7, Molle; Stroke, Stevenson; Coxswain, Hart.

Juniors.—Bow, Stevens; 2, Wood; 3, Stevenson; 4, Spicer; 5, Martens; 6, Huber; 7, Ratzburg; Stroke, Weatherspoon; Coxswain, Brigham.

Freshman.—Bow, Flint; 2, Oliver; 3, Sprague; 4, Sullivan; 5, Buckley; 6, Miller; 7, Moffett; Stroke, Black; Coxswain, Beach.

TRACK.

Although as yet there has been little work for the track men this fall in which to get a line on the new material, Dr. Shell is quite satisfied with the prospects for the spring. Most of last year's Intercollegiate men are back and training, and with them as a foundation the prospects are even brighter than a year ago.

The Department again is well represented by: Eaton, '05; Gunn, P. G.; Davis, '06; Haskins, '06; Capell, '05; Bruthers, '05; Lockett, '05, and A. J. G. Macdonald.

SWIMMING.

Since the completion of the new gymnasium the interest in swimming has greatly increased.

The swimming teams as yet have not been organized. Molle, '05; Calishaw, '05; Walker, '05; Coe, '05, and Haskins, '06, are all promising candidates from the Department.

Dewhurst, '06, won second in the Intercollegiate tennis championship, being beaten by Le Roy, of Columbia.

Kase, '05, will be a candidate for the basketball team as soon as football is over.

Exchanges.

WE are pleased to acknowledge receipt of the following exchanges: *British Journal of Dental Sciences, Rivista Italiana di Odontoiatria, The Stomatologist, The Australian Journal of Dentistry, The Bur, Tijdschrift voor Tandheilkunde, Odontologisk Tidskrift, Vierteljahrsschrift für Zahnheilkunde, The Western Dental Journal, The Dental Record, The Dental Review, The Dental Cosmos, Items of Interest, The Dental Digest, Dominion Dental Journal, The Articulator, The Pacific Dental Magazine Gazette, The Pennsylvania Dental Times, The Old Penn, The Alumni Register.*

Address to the Tooth-Ach.

My curse upon thy venom'd stang
That shoots my tortur'd gums alang;
And thro' my lugs gi'es mony a twang,
Wi' gnawing vengeance;
Tearing my nerves with bitter pang,
Like racking engines!

When fevers burn, or ague freezes,
Rheumatics gnaw, or cholic squeezes;
Our neighbor's sympathy may ease us,
Wi' pitying moan;
But thou—thou hell o' a' diseases
Aye mocks our groan!

Adown my beard the slavers trickle!
I throw the wee stools o'er the mickle,
As round the fire the giglets keckle
To see me loup;
While raving mad, I wish a heckle
Were in their doup.

O' a' the num'rous human dools,
I'll har'sts, daft bargains, cutty-stools,
Or worthy friends raked i' the mools,
Sad sight to see!
The tricks o' knaves or fash o' fools
Thou bear'st the gree.

Where'er that place be priests ca' hell,
Whence a' the tones o' mis'ry yell,
And ranked plagues their numbers tell,
In dreadful row,
Thou, Tooth-ach, surely bearest the bell,
Among them a'!

O thou grim, mischief-making chiel,
That gars the notes of discord squeel,
Till daft mankind aft dance a reel
In gore a shoe-thick;—
Gi'e a' the foes of Scotland's weal
A towmand's Tooth-Ach!

—Robert Burns.

The Paris Commission of Experts Awarded this Chair

The GOLD MEDAL 1900

Stylish Elegance-Comfort-Ease of Control-Safety-Simplicity and Absolute Dependability find their Highest Attainment in

"The Sibley" Chair

No. 1 has the greatest vertical range of any Pedal Lever Chair made.

No. 2 has the lowest operating position of any Pedal Lever Chair in the market.

Built to stand all tests, each Chair is as luxurious as a Turkish divan, and as reliable as human ingenuity can make it.

Write for illustrated booklet explaining the points of "SIBLEY" perfection and get terms.

GIDEON SIBLEY, Manufacturer

Branch House, Chicago, Ill. **Philadelphia, Pa.**

University Branch, 225 South 33d Street

Climax Dental Mfg. Co.

Dental Supplies of Every Description at
Reasonable Prices

Burs and Instruments Our Specialty

409 South Eighth Street, Philadelphia, Pa.

NOW IS THE TIME
TO SUBSCRIBE
TO THE
PENN DENTAL
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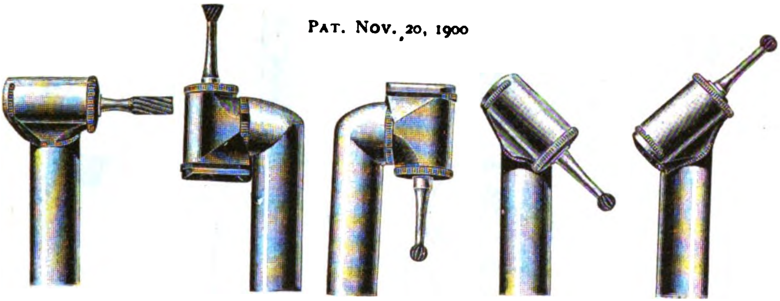
E. E. SMITH'S

Octangular Hand-Piece

FOR DENTAL ENGINES

PAT. NOV. 20, 1900



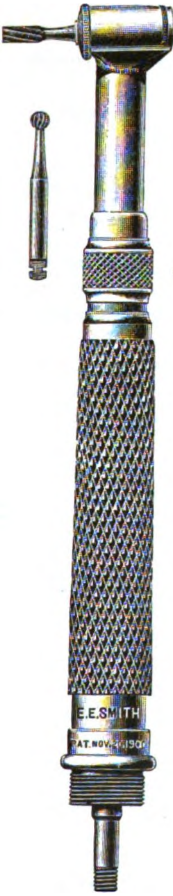


Fig. 1.—For Slip Joint Connection.

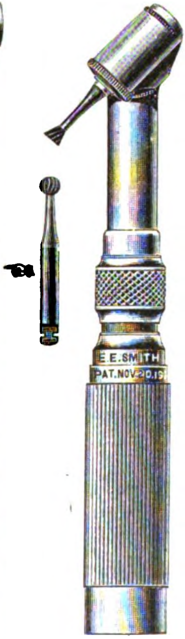


Fig. 2.—For Universal or Cone Journal Hand-piece.

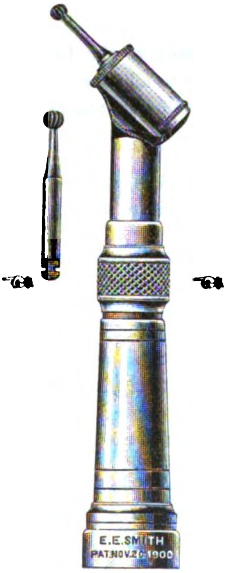


Fig. 3.—For Doriot Hand-piece.

This is the outcome of over 20 years' experience in the manufacture of Dental Instruments, and was originally perfected after months of diligent effort on the part of a skilled mechanic.

The advantage in the use of this improved Angular Hand-piece is to enable the operator to drill any cavity quickly and with ease. It turns completely around, ***locking automatically at eight different angles.*** It is made of the best material, strong, durable, and finely finished; has won its way to popular favor, and is indispensable to those who have once used it. It is now in use by many leading members of the profession, who speak highly of its merits. Try it and you will be another to testify to its value.

TO SWIVEL HEAD, PULL DOWN RING AS INDICATED BY ☛

Price, $10.00. Made to fit any Hand-piece

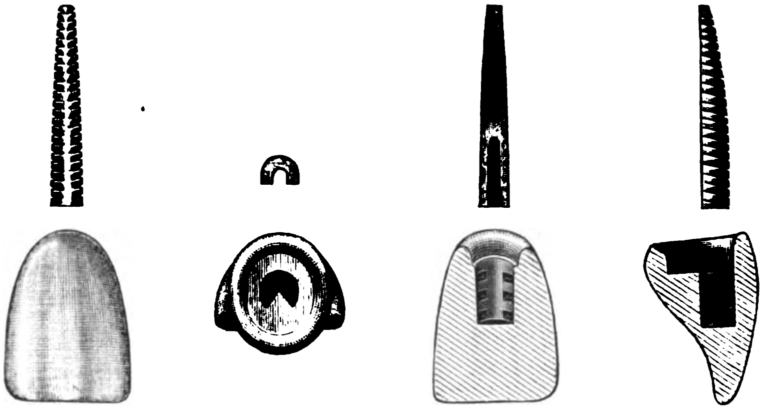
H. D. JUSTI & SON

SOLE AGENTS

PHILADELPHIA **CHICAGO**

The Justi "Detachable Pin" Crown

PATENTED MARCH 6, 1900   D. R. G. M. 119569



This crown is submitted to the Dental Profession with the utmost confidence that it will prove superior to all others.

It has all the admitted advantages of the detached pin crown without any of the objections.

RIGIDITY The shape, both of the cavity or recess in the Crown and of the base of the pin, cause the pin to be held rigidly, it can neither twist nor tilt.

STRENGTH The grooved undercuts in the Crown and the serrations on the pin make an absolute anchorage for the Cement, the pin therefore cannot pull out.

STABILITY The pin is a combination of platinum and silver, will not discolor the root, and will take the highest grade of solder. It is very much stiffer than platinum, is not brittle and can be bent to any desired angle without the slightest risk of cracking or breaking.

BEAUTY These crowns have the additional superiority of the Justi Porcelain and the Justi Shades, while the molds are worthy of our reputation, which means that they are unequalled.

The above advantages make the **Justi "Detachable Pin" Crown** the best porcelain Crown offered to the profession.

PRICES

Retail	$25 lot	$50 lot	$100 lot
Each .40	.37	.34	.31

100 Crowns, complete, in neat hardwood case, $35

Philadelphia **H. D. Justi & Son** **Chicago**

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SUCCESSOR TO
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Students are Invited to Call and Pass if only a Few Pleasant Minutes

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Astringent,
Antiseptic,
Alkaline,

Liquid,
Powder,
Paste.

SOZODONT

Established 1848.

OWING to diverse conditions and tastes, different classes of patients require different cleansing and prophylactic agents for the oral cavity. Some require a mouth wash (with or without detergent properties): others a powder (which should be free from harsh grit); while a third class need that which is fast becoming the most efficient and economical—a Paste.

The SOZODONT preparations cover the whole field. They are not only efficient but delightfully pleasant as well, thus insuring faithful use.

Information and samples cheerfully furnished.

HALL & RUCKEL,
NEW YORK CITY.

HARVARD CEMENT

Harvard Cement is a superior filling material, adhering closely to the bottom and walls of the cavity, becoming very hard and being insoluble in the fluids of the mouth. The range of colors in which it is supplied makes it possible to match any tooth so that the filling shall be inconspicuous.

Harvard Cement sets in from ten to fifteen minutes, during which time it should remain under the rubber dam, unless the operator prefers to coat it with sandarac or paraffin.

In the judgment of many workers of porcelain inlays Harvard Cement leads all other substances in cementing these inlays into the cavities. It also is peculiarly fitted for fastening gold crowns, gold bands, and bridge work in place.

Harvard Cement comes in twelve different colors:

No. 1. White.
" 2. Bluish White.
" 3. Yellowish White.
" 4. Light Yellow.
" 5. Yellow.
" 6. Gold Yellow.
No. 7. Light Pearl Gray.
" 8. Pearl Gray.
" 9. Gray.
" 10. Green Gray.
" 11. Bluish Gray.
" 12. Brown.

Sold as single colors, in two sizes, containing, respectively, 1¼ ounces and ½ ounce, and in assorted four-color packages, as noted below. The assorted packages contain ⅓ ounce of each of the colors making 1⅓ ounces in all, with two bottles of liquid.

One bottle of each of 3, 4, 7, and 8.
" " " " " 1, 5, 9, " 12.
" " " " " 2, 4, 8, " 12.
" " " " " 1, 2, 3, " 7.
" " " " " 2, 3, 4, " 7.
" " " " " 1, 3, 5, " 8.

Every genuine package bears on the label a fac-simile of the signature of Rob. Richter, D.D.S., by whom every portion is thoroughly examined before being placed on sale.

PRICES

Single Colors, 1¼-oz. Packages..................	per package	$2.25
" " Liquid or Powder for same, only..	" bottle	1.13
" " ½-oz. Packages	" package	1.25
" " Liquid or Powder for same, only..	" bottle	.63
Assorted Colors, 1⅓-oz. Packages	" package	2.50
" " Liquid for same, only	" bottle	.65
" " Powder for same, only	" "	.50

THE S. S. WHITE DENTAL MFG. CO.

Sole Agent for the United States,

Philadelphia New York Boston Chicago Brooklyn Atlanta
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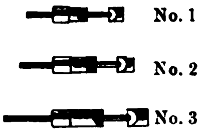
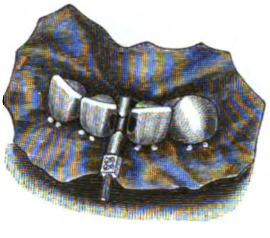
LITTLE GIANT SEPARATOR

Invented by Dr. H. W. Gillett

Design Patent June 28, 1898. Patented Aug. 30, 1887





The principal advantages of this Separator are its small size and its simplicity. It occupies but little room, obstructs no light, doesn't get in the way, and so is not likely to be accidentally thrown out of its adjustment.

Its special use is in the immediate separation of teeth having small approximal cavities, though it can be used effectively wherever there is room to place it.

The device consists of two wedges, one fixed at the end of a shaft, the other loose and controlled by a nut working on a very fine thread on the shaft.

In use the nut and loose wedge are removed, the shaft passed between the teeth to be separated from the lingual or palatal side. The loose wedge is then returned to the shaft, followed by the nut, which is screwed up, forcing the wedges between the teeth till the desired room is gained. The nut is manipulated by a key or wrench, magnetized to enable it to pick the nut up readily. The round recess in the wrench is for handling the small, loose wedge of No. 1.

Three sizes: No. 1 for use between incisors, Nos. 2 and 3 for bicuspids and molars. They may also be used as matrix holders. In matrix operations the Separator may often be applied without removing wedge or nut.

PRICES

Set complete	$3.75
Separately, No. 1, No. 2, or No. 3 each	1.15
Wrench	.40

GEAR'S SHADED PINK RUBBER

Patented March 24, 1891

Gear's Shaded Pink Rubber affords a satisfactory imitation of natural gum-tissue. It shades off in color as the natural gum does, the light pink at the necks of the teeth gradually deepening to the full red of the higher portion of the gum. It is easily applied and the result more than repays the slight extra labor involved.

Put up in strips $\frac{4}{16}$, $\frac{5}{16}$, $\frac{7}{16}$, and $\frac{9}{16}$-inch wide, and sold in packages of assorted widths.

Price, 3-oz. package	$2.75
" 1 " "	1.25

THE S. S. WHITE DENTAL MFG. CO., Sole Agent for the United States

THE S. S. WHITE DENTAL MFG. CO.

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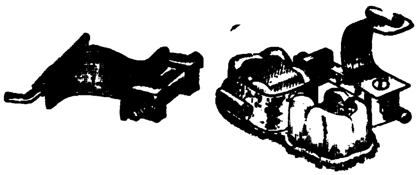
THE CONTOUR MATRIX

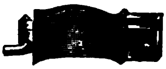
Invention of Dr. Wm. Crenshaw

Patented June 3, 1902



The Contour Matrix provides the room to work in; it affords the means for safe anchorage at the neck; it assures the proper contouring of the filling and the preservation of the interproximal space; it makes easy the finishing. Originally devised to assist in non-cohesive gold work, it is equally adaptable to tin or the plastics.

Non-cohesive (soft) gold is now commonly recognized as the best form of this material for use at cervical margins, only for the difficulties in putting it there. The Contour Matrix overcomes all of these—makes them easy, especially if you follow the method described by Dr. Crenshaw in the *Dental Cosmos* for July and August 1902. A reprint of his articles will be sent to anyone who asks for it.



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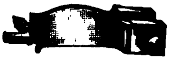

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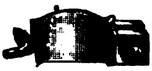

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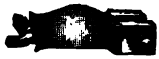


4

The Contour Matrix may be removed from between the teeth without marring the contour of the filling and without unseating it.

When in position it does not prevent closing the teeth; is not in the way of the operator, but holds the dam out of the way when it is used.

There are four sizes in the set, as shown, two for molars and two for bicuspids. No. 1 for long, No. 2 for short crown molars; No. 3 for long, No. 4 for short crown bicuspids. They can be let out or taken up so as to answer in all cases. For this purpose each Matrix is provided with three lengths of extra tube-pieces.

Price ....each $3.00

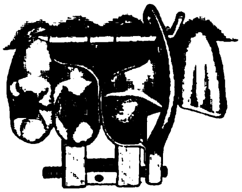
CONTOUR MATRIX BOW-BRACE

The bicuspid Contour Matrices, when placed between the canine and first bicuspid, often have a tendency to ride out of position, because of the spear-shape of the canine. The Bow-Brace is a simple device for correcting this tendency. It holds the Matrix firmly as placed. It is merely a nickel-plated bar curved to pass over the teeth, with an eye at one end to slip over the end of the tension-bar screw, and three holes near the other end to receive the pin. The three holes allow for adjustment to suit varying heights and forms of teeth.

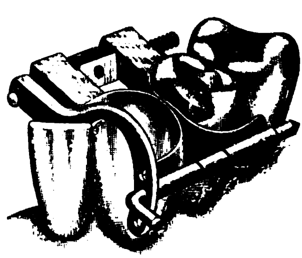
The Bow-Brace is readily and quickly applied, and by the use of extra tube-pieces a tight adjustment is secured, which interferes but little with turning the tension-bar and prevents pushing the Brace off the end of the screw.

Applicable only on the bicuspid Matrices, and only between the canine and first bicuspid. The narrowest band is usually best employed.

Price $0.15



Bow-Brace



Enlarged View

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Gold Foils
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This is the Gold Foil which you have used throughout your college course. It necessarily follows that you will want to continue with the same Foil when you settle down to your life's work. Send your orders direct to us if you can't get it at your depot. Our productions are recognized as the purest and most reliable before the profession today, and, besides being intrinsically good, you will work with better results with the material to which you have been accustomed.

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MILK OF MAGNESIA

(MgH_2O_2.—FLUID.) "THE PERFECT ANTACID."

The only neutralizing agent known

that will maintain a continuous alkaline condition in the mouth.

The only reliable medicament

for inducing an alkaline reaction of the whole gastro-intestinal tract.

A BLAND, NON-IRRITATING, AGREEABLE, HARMLESS

ALKALINE ANTISEPTIC.

Rational therapeutics indicates its use in:

Erosion, Gingival Caries, the Tooth Caries of Pregnancy, and all oral pathological conditions due to hyperacidity of the mouth secretions, whether local or systemic in origin.

For Fermentative Dyspepsia

and the Colic of infants it is a specific.

USE PHILLIPS' MILK OF MAGNESIA

INSTEAD OF OTHER ALKALI.

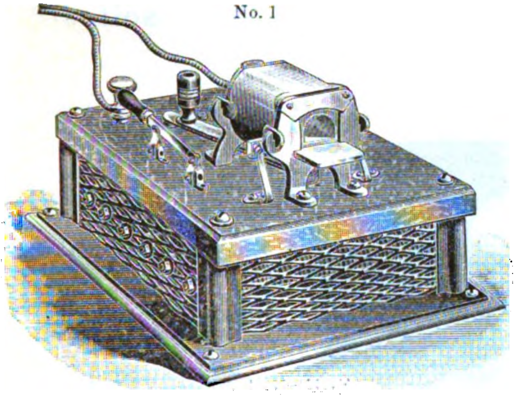
Get the genuine (PHILLIPS') and caution your patients.

THE CHARLES H. PHILLIPS CHEMICAL CO.,

NEW YORK.

The Hammond Electric Furnaces

Patented December 3, 1901, and February 10, 1903. In Great Britain, November 10, 1902
In Germany, November 11, 1902, In France, February 16, 1903. In Canada, May 12, 1903



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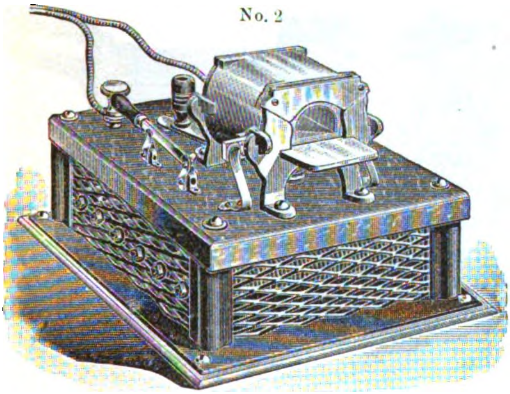

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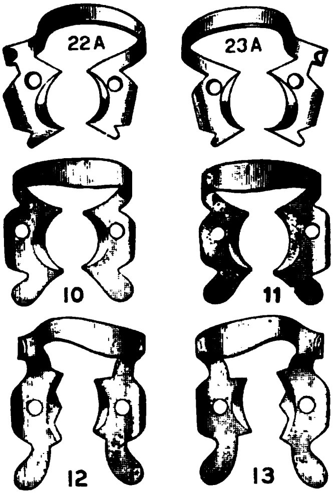

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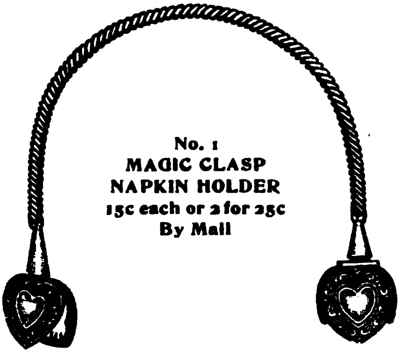

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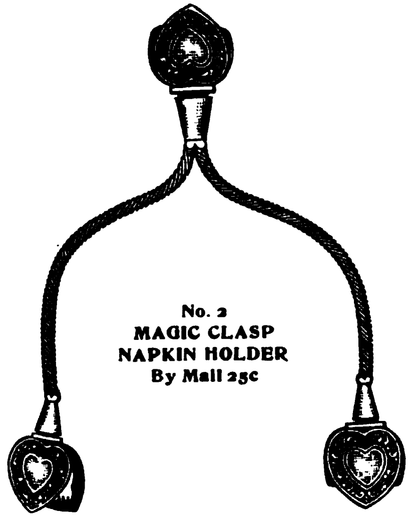

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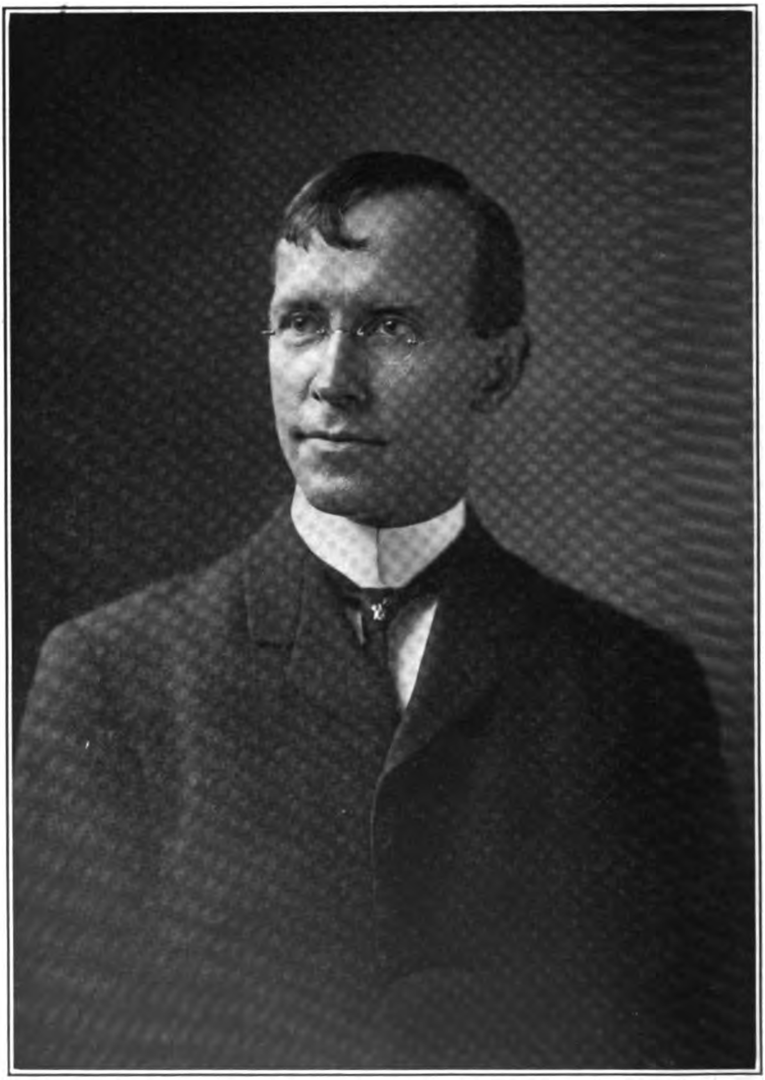

DR. JAMES G. LANE

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COMMUNICATIONS.

The Preparation of Cavities.

BY C. H. JACO, 1904.

PERHAPS there is no subject of operative dentistry in which there has been greater change of method within the last few years than in the preparation of cavities.

It has been the practice of most operators and the teaching of nearly all the colleges and text-books upon the subject to prepare all cavities with curved walls, free from angles, and with a pit for starting the filling.

On account of the rounded base of such a cavity, the force employed to adapt the gold to one wall must tend to roll it away from the opposite wall, causing the filling to rock at any stage of its insertion.

It has been taught that gold cannot be accurately adapted to angles in a cavity, but it needs no argument to disprove this if the proper shaped plugger-point is used. A round plugger-point is not the proper form to adapt gold into angles and along margins.

To prepare a cavity properly every wall should be flat, and should join other walls at an angle, usually at a right angle. All cavities should be free from starting-pits, abrupt or deep undercuts.

The filling should be retained by a dovetailed arrangement of the walls, somewhat as a keystone in an arch.

Fillings built into such cavities are easily inserted and finished, and most securely anchored against displacement, with the least amount of undercut to the cavity. In building a filling upon a flat base the operator has no fear of his fillings rocking, but feels in the marrow of his bones a sense of security to his filling, and forms a mental resolve never to return to the "curved wall and starting-pit" method of preparing cavities.

No attempt should be made to give the final preparation to the cavity and insert the filling without obtaining conditions that will permit of access to do perfect work.

We find in a normal denture in which cavities have not formed that the teeth stand well apart at their necks and are in contact with each other on their proximal surfaces at a point near their cutting edges. This point of contact is a rounded, contoured surface and not a broad, flat surface.

In the upper jaw the point of contact is on the buccal half of the proximal surfaces of bicuspids and molars, and in the lower jaw the contact point is about halfway between the buccal and the lingual surfaces.

We observe also that the gum-tissue normally fills the interproximal space between the contact point and the alveolar process. When decay occurs on the proximal surfaces of teeth it almost always begins at the point of contact.

The teeth having lost their natural support, move toward each other, forcing the gum from between them. If the cavities are large, the teeth may have so dropped together that the gum-tissue is entirely crowded from the interproximal space and the teeth found in contact at the gingival margins of the cavities.

Our object should be to restore the conditions that existed before decay began.

The teeth should be separated a little beyond their original positions and the fillings so contoured and finished that the original position and tooth-form shall be restored. It is very important that we avoid giving broad, flat surfaces to the contoured part of the fillings. Such surfaces will retain fibrous food to the discomfort of the patient, the irritation of the tissues in the interproximal space, and will cause recurrence of decay at the margins of the fillings. But if teeth are separated to their original positions and the fillings given the normal contoured surfaces, the interproximal space will be as nearly as possible self-cleansing and the gum within it will be in a healthy condition.

Where but little separation is required, an immediate separation may be made with a Perry separator, but usually it is better to separate gradually. For the anterior teeth, tape and cotton are the most satisfactory, and in the posterior teeth gutta-percha is perhaps the best material for separating. In using cotton for separation, two ligatures should be passed between the teeth and above the gingival margins of the cavities. The cavities should then be tightly packed with dry cotton and the ligatures tied around the cotton so that its expanding force shall be exerted mesio-distally.

In the posterior teeth, the cavities should be well opened on their occlusal surfaces and the decay removed. They should then be wiped out with carbolic acid and packed more than full with base-plate gutta-percha, so that the impact of occluding teeth will force the gutta-percha into the cavity and give the required separation. After a week, if separation is not sufficient, more gutta-percha should be added and allowed to remain for another week. In using cotton or rubber, separation is completed in about forty-eight hours, when it should be replaced with cement or gutta-percha till all soreness disappears, before inserting the filling.

The rubber dam should be applied and a wedge or separator used to maintain the space and hold the tooth firm while inserting the filling. It is very important that the tooth be firmly supported while working upon it. The more firmly we can hold the tooth while inserting the filling the more effective will be the blows of the mallet and less disagreeable the operation will be to the patient. Another important consideration, in order to give the patient the least discomfort and to leave the peridental membrane in the best condition at the end of the operation, is the direction in which we mallet the filling. If the blow is directed toward the end of the root it will be distributed throughout the peridental membrane and be less disagreeable to the patient than if directed laterally.

Proximal cavities in the six anterior teeth are very similar, and constitute one class. With a sharp chisel, weak enamel walls should be broken down and margins extended out of contact with the proximating tooth to a point where they can be kept clean. The lingual margin should be freely cut away until strong margins are secured.

The degree of extension of margins must be determined in each individual case. The operator must consider the esthetic effects, the prevalence of decay, the structure of the teeth, the age and physical condition of the patient.

After the margins have been extended to the proper positions, the decay should be removed with sharp spoon excavators. After all decay is removed the cavity should be given the proper retentive form.

The gingival wall should be made flat and given a slight incline rootwise as it approaches the axial wall of the cavity. This can be done by passing an inverted cone bur of proper size labiolingually along the wall.

The shank of the bur should be held in line with the long axis of the tooth, with the end of the bur against the gingival wall. This leaves the wall flat, with a sharp angle between the gingival and axial walls. The inverted cone should be borne labially and lingually to form distinct angles where the gingival wall joins the labial and the lingual walls. These angles should be in the dentine and not between the enamel and the dentine.

The lingual wall should be slightly undercut in its upper third as it joins the gingival wall.

The labial wall should not be undercut, but should be flattened and join the axial and the gingival walls at right angles.

The incisal retention is made with an inverted cone bur of proper size, held at right angles to the long axis of the tooth. This retention should be made in dentine about halfway between the pulp and the incisal edge of the tooth, and the approach to it should be on a gradual slope from the adjoining walls. Care should be taken not to extend this retention so far incisally as to destroy all the dentine between the two plates of enamel.

If access cannot be had with a bur, a sharp hoe-excavator can be used to make this retention. Finally the enamel margins should be beveled with a sharp chisel.

Enamel margins should be on curved outlines and should join each other on curves and not at angles. If the chisel has formed an angle in the enamel, it should be rounded out with a plug-finishing bur. Special attention should be given to avoid angles where the gingival margin joins the labial and the lingual margins.

Where the patient has an end-to-end bite of the incisor teeth, and the cavity includes the corner of the tooth, a step should be formed by cutting away the incisal portion of the lingual plate of enamel, leaving sufficient dentine to support the labial plate.

The step should extend across the incisal edge and include all the exposed dentine on the abraded surface. The labial plate should be slightly beveled and the gold built over it.

The step should be perfectly flat and extended toward the pulp enough to give sufficient body to the filling. At the extremity of the step a slight dip should be made to retain the filling against tipping stress. The dip can be made with a small round bur and then given a flat base with an inverted cone.

This is a very effective method of retaining the filling, but should only be employed where there is an end-to-end bite of the incisor teeth.

When cavities form on the proximal surfaces of bicuspids and molars at the point of contact, the cavity, as a rule, should be extended to the occlusal surface and include the fissure throughout its extent.

To fill these cavities without extending them to the occlusal surface, is to work under such conditions as to make it very difficult to do perfect work. Where cavities are small and the teeth are of unusually good structure, in a mouth where decay is not very active, such cavities may be filled without extending to the occlusal surface, if access can be had through a wide separation or a large cavity in the proximating tooth.

Such fillings should be given an excessive contour and so finished that their contact point shall come in their centers. In this way the margins are free from contact and can be kept clean.

But in the great majority of cases these cavities should be extended to the occlusal surface. With a sharp chisel, all weak enamel should be broken down, and the buccal and the lingual margins extended from between the teeth to a point where they can be kept clean. If the cavity is large, the gingival margin should be extended under the gum and should join the buccal and the lingual margins on curved lines. Fissures should be drilled out to smooth enamel margins and included in the cavity. All decay should then be removed with sharp spoon excavators and the cavity given its proper retentive form. These cavities are usually large and closely approach the pulp, and have deep buccal and lingual undercuts. In such cases we should build in an oxyphosphate cement step, at the same time filling the buccal and the lingual undercuts and dressing to flat walls without undercuts.

The cement will strengthen the tooth and prevent thermal changes affecting the pulp, and give such form to the cavity as to make the filling easily inserted.

The attempt to adapt gold into deep buccal and lingual undercuts accounts for leaky fillings and subsequent discoloration of the tooth. We should have direct view along flat walls to all parts of the cavity, through the occlusal opening.

For anchorage in these cavities we depend upon the flat gingival base and the formation of a step upon the occlusal surface at a right angle with the axial wall of the cavity. The stress of mastication will tend to force the filling against the gingival wall and to tip it from the fissure toward the proximating tooth; hence the retention required, to be effective, should be on the occlusal part of the cavity.

The gingival wall should be flat and should join the buccal, the lingual, and the axial walls at right angles or slightly acute angles. The buccal and the lingual walls should be flat, free from undercuts, and should join other walls at right angles.

The pulpal wall or step should be flat and at its extremity should be extended slightly buccally and lingually.

Finally, the margins should be beveled. This can be done with a chisel. A plug-finishing bur should be used to round out the angles where the gingival margin joins the buccal and the lingual margins.

In a lower first bicuspid, having no fissure, we retain the filling by slight undercuts along the buccal and the lingual walls, made with a fissure bur in the right-angle hand-piece.

In preparing occlusal cavities in molars and bicuspids, the fissures should be cut out to strong, smooth enamel margins. All walls should be made flat with a fissure bur in the right-angle hand-piece.

Abrupt or irregular undercuts should be avoided. Never use a wheel bur in these cavities. The retention is made by holding the fissure bur at such an angle as to make the pulpal wall a little wider than the opening of the cavity, thus forming a dovetail with the buccal and the lingual walls.

It is not within the limits of this paper to consider the preparation of all classes of cavities, nor is it claimed that the three classes considered have been entirely covered in detail; but it is hoped that general ideas have been given which may be of service to anyone who has not used this method of preparing cavities.

It is not my intention to give the detail of inserting the filling, but it might be said in general that the filling should be started with a rope of gold of sufficient length to cover the entire gingival wall, and well packed into each angle. The filling should be kept flat and properly contoured as it progresses. The first malleting after placing a pellet of gold should be along the margins and directed toward the apex of the root, so that as the gold condenses the plugger slips along the margin without bruising it.

The fibers of gold should extend from the contoured surface into the body of the filling, and the contour should not be plastered on latterly after the bulk of the filling is inserted. In finishing, the margins should first be dressed down and the contour finished last.

Specialization in Dentistry.

BY MILO HELLMAN, 1905.

[Read before the James Truman Dental Society.]

SPECIALIZATION, we are taught in physiology, is the setting aside of a part for a particular function. Specialization, therefore, in my estimation, is the most important factor in development and perfection. And in no other instance is this fact more beautifully illustrated that in the hightest developed form of life—the human being.

If we briefly trace the progress and development of life, we will be amazed by the wonderful changes performed by nature in the form of specialization for the purpose of perfection.

Thus, we observe in the very beginning of life, in the unicellular organisms, the performance of all the functions necessary for existence; namely, metabolism, changes of form, and transformation of energy. Of course, the organism being primitive, its functions are therefore rudimentary. And yet, even here, we observe, if we examine critically, specialization of definite parts of the cell for definite functions.

But as conditions change and become such as would probably endanger or otherwise alter the existence of the unicellular organisms, we find, as a higher development of life, individuals consisting of associations of cells—*i. e.*, tissues. In these, not only specialization of cells has taken place but also differentiation of them, thus rendering them more fit for their specialized functions.

The next stage of development we find in the association of tissues forming the organ, specialization here being observed in the cells and in the tissues. Then is seen the association of organs forming a person, specialization being observed in the cells, tissues, and organs.

In all these classifications we note that the cell is the fundamental basis of the higher structures. And, through the specialization of the functions of the cells, the tissue is perfected; through the specialization of the functions of the tissues, the organ is perfected; and through the specialization of the functions of the organs, the person is perfected.

We must, however, recognize the essential independence, and, if I may say so, the "personality" of the individual cells of even our most narrowly and rigidly specialized tissues. Although the vast majority of their life activities are *in* and *for* the service of the entire organism, yet are they autonomous in character; they live a personal life, and are quite capable at times, as for instance in cancer and sarcoma, of sharply reversing this relation, and using the nutritive fluids of the body for their own overgrowth in such proportions as to imperil and even destroy the entire organism. Thus, we see that the perfection of the highest form of life is essentially due to specialization.

My conception of the relation between this truth to my subject will be evidenced by what follows:

Having recently read about "The Historical Development of Dental Art and Science," from the earliest time recorded up to the present day, I am strongly inclined to believe that not only the origin of dentistry but also the development from the very infancy to its present world-wide recognition as an established science and art is due mainly to specialization.

I will, with your kind indulgence, mention a few historical facts which I hope will bear me out in my assertion.

Although the beginning of dentistry dates as far back as the papyrus of Ebers, 3700 B.C., in which fourteen prescriptions for the treatment of several dental diseases are found, yet was it then nothing more than a part of general medicine. Dental surgery was not practiced before the thirteenth century B.C. period. Esculapius invented and practiced, among other methods, the extraction of teeth as a curative means, about this time.

Still, dentistry was as yet not a separate profession, until the time of the historian Herodotus, 450 B.C., who informs us that in order that the health of the Egyptians might be well taken care of, the physicians were compelled to specialize; and so some took up the treatment of diseases of the eyes; others, of the head; and still others, of the teeth, etc. Hence we see that by specialization in the practice of medicine dentistry was born.

But while we find the Egyptians practicing dental art as a specialty of medicine, in the form of medical treatment of pain of the teeth and extraction, we are also informed that the Phœnicians practiced prosthesis, and the Etruscans knew how to make a variety of so-called bridge work.

From this time to the time of Cornelius Celsus, at the beginning of the present era, little, if anything, of interest was added in the line of my subject.

Cornelius Celsus marks the advent of a new era in dentistry. He, as evidenced by his treatise on medicine, made it a special study, and traces the history of odontology, reviews a great number of anti-odontalgic remedies, and speaks of different methods of producing exfoliation of teeth without resorting to extraction. He speaks of the serious dangers surrounding extraction, and advises dissecting first the gum, then luxating the tooth before extracting it. He also recommends the filling with lead of decayed teeth before extraction, in order that they do not break under the pressure of the instrument. The other operations he refers to are the lancing of abscesses of the gums; the treatment of fistulæ of the gums by means of extraction of decayed teeth or through removal of necrosed fragments of bone; slight cauterization of the gums in cases of loosened teeth; ligating loosened teeth to their neighboring healthy ones by means of a gold wire; scraping of uneven and stained teeth; and correction of dental deformity which takes place when the permanent teeth erupt before the temporary are lost. In regard to prosthesis, he was, nevertheless, completely silent. Prosthesis, however, at that time must have been practiced as a separate specialty, for it is mentioned in the satires of Horace, and in the epigrams of Martial.

During the beginning of the second century A.D., the illustrious Archigenius invented the trepanation of teeth, an operation that he performed when a tooth that had changed its color, in spite of the absence of caries, was the seat of violent pains and was refractive to all kinds of remedies.

Dentistry then suffered a decline, as did all arts and sciences between the downfall of Roman civilization, fifth century, and the renaissance of modern civilization at the close of the middle ages.

The little that was done in dentistry during that time was attributed to the Arabs. Rhazes was the initiator of the operation of filling teeth as a curative means, using for his purpose a mixture of mastic and alum. In the eleventh century Abulcausis, in his celebrated book on surgery, gave illustrations of a great number of dental instruments. Among them were scrapers, forceps, elevators, files, and saws. The most important achievement of Abulcausis is that he was the first to mention *replantation* of teeth, advising this operation whenever one or two teeth should fall out by reason of traumatic injury.

Jean Arculanus, professor in Bologna, in the fifteenth century, was the first to mention the filling of teeth with sheets of gold.

The celebrated Ambroise Parré, in the sixteenth century, was the first to record the *transplantation* of teeth. The greatest of his achievements was the method of treating perforations of the palate by means of obturators.

In the seventeenth century replantation of teeth was practiced as a curative treatment by Dupont, a Frenchman.

Highmore, in 1651, gave an exact description of the maxillary sinus, and later Meibom, Cowper, and Drake began rational treatment of diseases in this cavity that nearly always originated in some dental disturbance.

This ends the most important events that had taken place before the beginning of the eighteenth century, and it clearly shows that only by earnest and thorough study in a particular direction could each of the individuals mentioned be the initiator of a new method of treatment or of an old method in a new way of application. Thus he not only shows the world his particular skill or ingenuity, but also by his earnest endeavors advanced his profession and benefited humanity.

With the work of Pierre Fauchard, in the beginning of the eighteenth century, dentistry, hitherto largely practiced by ignorant barbers and "tooth-pullers," now became a high and deserving profession. Fauchard collected in a masterly work everything that had been done in the domain of dentistry before him, and all the improvements that his inventive genius introduced into the practice of prosthesis, his specialty. Fauchard is considered as the founder of modern dentistry.

In 1746, Muton, in his monograph, mentions the first gold crown made for the arrest of ultimate destruction of teeth already very much disorganized. He was the first to introduce the retention of artificial teeth by means of clasps, such dentures having previously been retained by means of wire ligatures.

Philip Pfaff, 1756, in his treatise on odontology, makes first mention of wax impressions and plaster casts, while Geoffroy Purman at the same time was the first to use plaster impressions. He was also the first to practice the operation of capping the pulp.

At this time the replantation and transplantation of teeth was universally practiced, some having even made a specialty of it. The American, Yonger, for instance, acquired the greatest reputation by the implantation of teeth. To him is generally attributed the credit of this discovery.

In 1776, Duchateau, an apothecary, made the discovery of porcelain teeth.

In 1788, Dubois de Chemant invented mineral teeth, which were successively improved by Dubois Foucon, by Fonzi, in 1808, and by the Americans, Stockton in 1825, Wildman, 1839, and lastly by Samuel S. White.

James Gardette, the first representative of dentistry in this country, was the first to use metallic plates as a base for prosthetic pieces. He was also first to employ atmospheric pressure as a means of retaining upper plates.

Jean Baptiste Gariot invented the first articulator in 1805. He also invented and described for the first time dental bridges, greatly improved later by Americans.

Regnard, another French dentist, in a pamphlet in 1818, describes an amalgam of his own invention for filling teeth.

From the time of Fauchard up to this time, we observe that prosthesis, undoubtedly due to the influence of Fauchard upon the thought of his contemporaries, was especially greatly advanced.

And finally we come to the most interesting period in the category of dentistry—the period of time from the year 1839 up to the present day. This period marks *the* epoch in the evolution of dental science and art. It was at the beginning of this period that

Nasmyth's work came forward, and men like Cuvier, Serres, Rouseau, Bertin, Herrisant, and others in France, had added to the knowledge of human and comparative dental anatomy, while Retzius, of Sweden, and Weber, Rosenmüller, Schreger, Purkinje, Fränkel and Müller, in Germany, were carrying forward the same lines of research. It was during this period that the minute anatomy and embryology of the dental tissues were worked out with great fulness and precision through the researches of Tomes, Mummery, Hopewell-Smith, and Williams, in England; Hertwig, Weil, and Röse, in Germany; Andrews, Sudduth, and Black, in America. Lastly, it was also at the beginning of this period, in the year 1839, that the first dental school in the world was founded.

With this dental school and with the schools that followed it, specialization in dentistry as we now understand it was practically initiated and earnestly encouraged. I say that specialization was now *practically* initiated, because there is no greater factor than a school for the encouragement of specialization, provided we look at it in the proper light. Students are generally prone to regard this assertion with some degree of disbelief, because they regard the school versus specialization from their own personal point of view, namely, as they are taught dentistry in its various branches; and as they, during the course of studies, are required to know one branch as well as the other, they regard specialization as practically abolished, which is true as far as they are concerned. But this is not all the consideration we can give this question; for it is not only the student who is concerned in a school, since the professors also play an important rôle.

The professional school in my opinion serves a twofold purpose. First, it serves to teach men a profession, rendering them useful to society; and secondly, and to my mind most essentially, it serves, by means of employing teachers and professors, to advance the sciences, thereby benefiting humanity. In order to make himself most efficient in the teaching of his particular subject, the professor is spurred on to higher studies and further investigation; for every conscientious professor wants his subject to be most appealing to the student; and in order to accomplish this object, and owing to his natural desire for knowledge, not to mention the instinct for emulation, he is bound to progress in his studies, either by constant observation, research, or otherwise. This enables him thus to imbue the student with enthusiasm for his particular branch, thereby further adding some material of value to the branch of science he represents.

It would be too great a task on my part to undertake just to mention all the improvements, discoveries, inventions, and original research that were effected through men who have been afforded such opportunities from the foundation of the first school up to the present day. Suffice it is say that this period has brought forward men like Truman, Kirk, Black, Miller, Darby, Johnson, Cryer, Essig, Turner, Angle, Williams, Peeso, Gritman, Capon, Goadby, and a host of others whose names would fill volumes. What do we learn by what I have just said? We learn that while the student at college is taught a profession in its entirety, the professors, on the contrary, are specializing in the fullest sense of the word. As evidence of this I can refer you to the names just mentioned. These names are almost symbolical of some branch of science or art in the dental world.

I have so far endeavored to show you how dentistry was slowly but gradually built up to its present extent evidently through the concentration of thought, and through the application of the greatest amount of skill into a particular direction by the ablest men of all times; and now I will endeavor to show you what I further mean by specialization, and how we through specialization may carry onward the science and art handed down to us until it reaches the zenith of perfection.

What I mean by specialization in dentistry is not that we practice one particular branch to the exclusion of all others; this would be absurd. Let us act like the cells of our bodies, which besides performing their primitive functions for self-existence, also, as a constituent part of the entire body, perform that function for which they have by nature been specialized; and so not only merely maintain the life of the body, but also help in its perfection. Or, like the intelligent citizen of a state, besides living a wholesome personal life, he also has the welfare of the state constantly at heart, and does his utmost to see it prosper, that he might be proud of it.

We are the cells of dentistry, the citizens of our profession; and it rests with us as to what dentistry shall be in the future. A body composed of morbid cells can strive as little as a state composed of indolent citizens can prosper. Although we are interested in dentistry as a whole, each one of us has surely a positive inclination toward a certain branch thereof. We cannot possibly be equally interested in all its branches. The many branches pertaining to dentistry that we are taught and that we are to practice are mainly to secure our existence. But by specializing in that certain branch which will above all others appeal to us, and earnestly and conscientiously following it up by constant study and original research, not with the expectation of some pecuniary remuneration, but with the sole aim in view that by every little achievement of our feeble endeavors we shall add another stone toward the perfection of the great structure of our chosen profession.

Temperament in Relation to Complete Dental Prosthesis.

BY B. C. GRAFFAM, 1905.

[Read before the Edwin T. Darby Dental Society.]

ALL who write papers for a dental society will agree with me that the selection of a desirable subject is a matter of considerable difficulty. I believe that the matter treated should bear some relation to dentistry and yet should not be so familiar to everyone who listens that no new thoughts are suggested. So it is only after much groping that I have settled on the consideration of "Temperament in Relation to Complete Dental Prosthesis."

While I am not affectionately disposed toward the making of plates, I cannot do otherwise than notice the failures, from the standpoint of the esthetic, in the entire artificial dentures constructed by the majority of the dental profession. Where the human denture is only partially supplanted by artificial teeth on a plate or bridge, the discrepancy is not apt to be so noticeable; but in entire dental restoration, the observer is too often confronted by picket-fence regularity and a suggestion of tombstones. The dentist may pay heed to the lip line, the facial contour, and the occlusion, but as soon as the possessor of a plate opens his mouth we are made aware of a fallacy.

I have often heard the remark from unfortunates who wear entire artificial dentures, "Yes, my teeth stay up and I can eat with them very well, but everybody knows I have false teeth." And the reply usually is, "Well, you can hardly expect more than that. Artificial teeth cannot be made to look exactly like natural ones." And, gentlemen, the endeavor to counterfeit the normal appearance is just the one that fails. This may be one reason why most practitioners prefer operative to prosthetic dentistry.

Eminent authorities have made the statement that the dentist's art consists in concealing art; and more than this, most people *prefer* to hide the ravages of decay, so we have every reason to strive for perfection in dental prosthesis. And why do so few strive intelligently, and why this failure, on the part of the majority, when they have *so* nearly succeeded in equaling nature?

The answer is: They are not versed in the analysis of temperament, and consequently their judgment on the shape, shade, and arrangement of teeth in a given case is poor; and yet a great many continue in the belief that the work as performed is good enough, and patients should be satisfied to have any artificial teeth at all! It takes years of study to be expert in the analysis of temperament. But I think I am able to see where lies the fault of dental prosthesis as it is practiced, and I consider it important to bring to your notice a thing which has such an important bearing on our future work and to which so few pay any heed.

The authorities on temperament divide the Caucasian race into four basal temperaments—sanguine, bilious, lymphatic, and nervous—and in a general way we know that certain forms and shades and arrangements of teeth are peculiar to each. But the difficulty is that one seldom or never meets a pure type of any temperament, and the mixtures are in varying proportions. So you can readily see that no rule can be laid down by which one can, without study and investigation, determine just the proportion of basal temperaments in a given individual.

The student of temperament, as applied to dental prosthesis, should memorize the classification of temperaments as denoted by the complexion, stature, etc., and the size, shape, shade and arrangement of teeth associated with each; then he should attempt to analyze the temperament of everyone with whom he comes in contact, and, if he is able, to notice the teeth possessed by the person whose temperament he is studying. After constant practice in this direction, he will eventually be able to say intelligently why the artificial teeth we notice so frequently look unnatural.

I have brought this subject to your consideration in the hope that some of you will be influenced to make a study of the temperaments and the relative teeth, in order that your restorative efforts of the future may be intelligently directed, and your cases for *entire* dental prosthesis will result in *complete* dental prosthesis.

Predisposing Causes of Dental Caries.

BY P. H. MARKHAM, 1904.

[Read before the Edwin T. Darby Dental Society.]

In order to discuss the predisposing causes of dental caries, I think it well to state a few of the exciting causes.

It has been proved beyond question that the direct exciting cause of dental caries is lactic acid. This question, therefore, involves the full consideration of the conditions of lactic fermentations in the human mouth. This includes two factors: first, the substances out of which lactic acid is formed; and second, the organism which causes the transformation.

Lactic acid is formed out of—*i. e.,* requires for its production the presence—substances identical with or which are, under the conditions found in the mouth, converted into glucose, $C_6H_{12}O_6$.

These are of three groups of carbohydrates: glucoses, $C_6H_{12}O_6$. saccharoses, $C_{11}H_{22}O_{11}$, and amyloses, $C_6H_{10}O_5$. The most important in the human dietary are grape-sugar or dextrose, and fruit sugars or levulose, in the glucose group; cane-sugar in the saccharose group; starch, cellulose, and gum in the amylose group.

The cane-sugar is broken down by hydration into two fermentable carbohydrates, levulose and dextrose, both having the same composition. This hydration is brought about by the action of organized ferments, such as ptyalin and amylopsin, which convert starch into glucose.

In order to effect the localized and persistent fermentation of carbohydrates necessary for the production of dental caries, the question of the lodgment of ferments and fermentable materials is all important. Carbohydrates, soluble in saliva, such as lactose and glucose, have their solutions carried into all spaces in and about the teeth; and if ferments be present, organized ferments as bacteria, the solutions furnish a food supply for their development.

Variations in the conditions present favor or deter the development of certain forms. Until the physiology of all the oral bacteria is clearly understood, the nature of the conditions favorable or detrimental to the active growth of definite forms can be but partially understood. The condition of the human mouth under normal circumstances, containing, as it does, food débris, an abundance of water, dead tissue, and a constant temperature, are such as to promote the growth of numerous micro-organisms.

There are conditions in which caries is almost certain to increase, the most constant of which is pregnancy. Not only does caries increase during gestation, but the rapidity is markedly increased. It has been stated that during gestation there is a lessening of the calcium salts, the reason being that the calcium salts are taken from the tissues of the mother to supply the tissues of the fetus.

Among the important general predisposing causes of dental caries must be placed heredity. In many of these cases local conditions are not sufficient to account for the lessened resistance, and the evidence points to a general condition underlying the dental vulnerability.

The local predisposing causes of dental caries are much more evident than general; they include, first, variation in structure, arrangement, and forms of teeth together with other local anatomical and physiological variations. There is another feature which calls for consideration. For some time after the full set of teeth are erupted, fragments of the partially calcified structure, known as Nasmyth's membrane, are attached to the teeth and occupy pits and sulci, furnishing lodgment for ferments and fermentable material.

There are differences in the structure of dentine, which influence the rapidity and nature of carious processes. The existence of interglobular spaces permits the quick progress of the disease. Imperfections in the anatomical organization of the dentine itself also appear to affect the resistance offered by this tissue.

The arrangement of the teeth plays a great part in caries. If they be arranged in such a manner that the interproximal spaces cannot readily be cleansed, a predisposition to caries is created. Teeth which have lost their antagonists have a tendency to accumulate débris, and, finally, we have caries originating from this cause.

PRACTICAL SUGGESTIONS.

A Useful Application for Sore Lips While Operating.—I find that a little collodion is very useful to apply to sore lips before beginning to operate. It takes out the soreness, protects the lips, and they heal rapidly after the application. It is also useful to apply to wounds on the hands, as it reduces the danger of infection and washing will not remove it.—W. J. HEMPHILL, *Dental Review.*

Reduction of Tendency to Hemorrhage.—Dr. C. Edward Wallis reports that ten grains of calcium chloride administered internally three times a day for a week previous to extracting reduces very materially the tendency to hemorrhage in patients who exhibit a predisposition to excessive hemorrhage.—*Dental Digest.*

To Remove Oxide from German Silver.—Dr. V. E. Barnes, in the *Dental Summary,* suggests hydrochloric acid, full strength, used cold, to remove oxide from German silver regulating appliances.

Alum for the Hands of Operators.—A piece of alum of suitable size kept in a convenient place will be found useful where the operator's hands perspire frequently. Draw the fingers over the alum once and it will usually be effectual.—W. J. HEMPHILL.

When amalgam is used, quick wedging is contraindicated in any but small fillings. Unless the teeth are kept apart sufficiently long to overcome the tendency to immediately resume their normal position, any contouring will be destroyed; possibly, indeed, the filling may be broken up and disintegrated by the teeth springing together as soon as the wedge is removed.—D. LINDLEY PALMER, *Brief.*

Impression Taking.—Plaster is the only material with which a perfect impression can be taken, and just in ratio to the difficulties of the case is it necessary to have a plaster impression.—GEO. H. WILSON, *Dental Era.*

To Keep a Gingival Margin Cavity Dry Without Rubber Dam.—Prepare the cavity and place a napkin in position. Saturate a little floss silk, or small, loosely twisted thread of absorbent cotton, with thin cement. Dry the cavity and pack the silk or cotton around under the gum margin. This method is often useful where the rubber dam and clamp is in position and the rubber is stretched and does not pass under the gum margin at the sides of the clamp. —R. E. SPARKS, *Dental Review.*

An Astringent Mouth-wash.—One ounce of listerine will take up one ounce of tannic acid, making a very strong astringent mouth-wash—DR. GRADY, *Dental Cosmos.*

To Prevent an Engine Cord from Slipping.—A little beeswax and resin applied to the engine cord will prevent it from slipping. Try this the next time you are without a rubber rim.—R. M. PEARCE, *Review.*

To Prevent Adhesion of Impression Material to the Teeth. —Request the patient to hold a little milk of magnesia in the mouth for a few minutes. This will cleanse the teeth and mucous surfaces of adherent secretions and give a clear, sharp impression.—*Dental Office and Laboratory.*

Menthol Crystals.—Sometimes in operating for pyorrhea the tissues are sensitive. It may not be advisable in a given case to employ cocaine on account of contraindications. In such cases pack the pyorrhea pockets with menthol crystals a few minutes in advance of the operation. It will be found a great relief to the patient, and is in every way a more pleasant application than cocaine.—*Dental Review.*

Pulp Removal; Pressure Anesthesia.—If the apical foramen is small and a free opening made before attempting removal, if the broach is gently slipped to the very apex and the pulp heroically removed there will be very little bleeding, and what may occur will soon cease of its own accord, and then by washing out canals with alcohol and drying we approach nearer the ideal condition than can be attained by any other method.—R. A. ADAMS, *Dental Summary.*

Coloring Cements to Match the Teeth.—I am at present using a number of highly colored lead pencils. To get the required shade, the pencil is passed a few strokes over the ground-glass slab; the necessary amount of liquid is then poured on the slab and thoroughly incorporated with the pigments. The powder is then added and thoroughly mixed. An absolutely white oxide of zinc powder is best to start with as a basis, tinting with blue, green, or red pencils, shading with the black lead pencil.—M. BELCHER, *Dental Office and Laboratory.*

Cavity Varnish.—Gum copal, dissolved in ether, alcohol, or chloroform, to which is added ten per cent. hydronaphthol, forms an adhesive and antiseptic cavity varnish of great merit.—B. L. THORP, *Western Dental Journal.*

EDITORIAL.

The Four-Year Course from the Students' Viewpoint.

VERY few men after graduating from a dental college feel that they are thoroughly prepared to take up the work of the profession. It is a well-known statement among students that the more a man knows of the profession, the less he thinks of his ability. All go out from school with a certain amount of trepidation.

They have covered the theoretical part of a great amount of work, only a small proportion of which work is actually done by them. About the work which they have learned theoretically and have been performed, they feel a certain amount of confidence, knowing that with the fundamentals understood they can master the variations.

We are glad to say that the University of Pennsylvania has a reputation for giving a strong course in theory. It is this that interests the student most in the four-year course. Not that new branches may be added to fill completely the extra year, but that more of the practical work may be done that is now regarded as a specialty.

Almost every student would like to take the post-graduate courses in crown and bridge work, and in orthodontia. Dentistry is not such a wide branch of science that specialization is necessary to success, at least not so much so as in medicine. It is a fact that only a small proportion of dentists specialize, in spite of the fact that the short course favors specialization. The great number of poor crowns and bridges which are made by dentists of good standing shows that they have learned the theory at college, and have worked up the practical part themselves, instead of learning it under the expert supervision of a professor or demonstrator. We do not want less theory, and can get but little more practical work done in the three years. This is the student's argument for the four-year course.

From an impartial observation, there seems to be a great deal of selfishness, both on the part of the student and the colleges, regarding the longer course. While the student would like to have the extra practice secured, yet he hates to put off longer than possible the beginning of his life work. Therefore he feels that after he graduates the course should be lengthened; that although it is good for him, it is better for the other fellow.

The colleges not sustained by endowments, and dependent upon the tuition fee received from students for their maintenance, are opposed to the longer term; while those endowed and those connected with universities, being independent of income from student sources, having in mind only the advancement of the profession, favor it as a rule.

Then, in favor of the longer term we have the student's desire for more time in which to get more knowledge of practical dentistry under skilled instructors, and the wish of both student and college to advance the profession. Opposed to it we have the selfish desire of the student, and the financial aspect it presents to some institutions. The following table shows the effect the rule had on three of the Philadelphia dental colleges, while it was in force:

	Entering Classes.		
College.	1902.	1903.	1904.
Pennsylvania	89	42	55
Philadelphia	136	35	91
University	157	72	90

Dr. James G. Lane.

The Journal presents as a frontispiece for this issue a portrait of James G. Lane, D.D.S., Demonstrator of Mechanical Dentistry. Dr. Lane graduated from the Department with the class of 1890, and has practiced since then at 763 North Fortieth Street. He was appointed demonstrator in the fall of 1890, as assistant in crown and bridge work. Later, when Dr. Peeso was compelled to relinquish his work, on account of sickness, Dr. Lane had charge of the crown and bridge department. He was later Chief Demonstrator of the

Mechanical Clinic until it was deemed necessary to have a demonstrator for the entire day.

He is Alumni co-editor of the JOURNAL, and is editor of the *Alumni Annual.*

THE DEPARTMENT.

Quotations.

THE most efficient man of to-day is the one that knows most about his business.—DR. KIRK.

If a man can do good work with poor material, he can do better work with good material.—DR. DARBY, in speaking about amalgam fillings.

Students work best along lines that offer the least resistance.—DR. GRITMAN.

Ingenious Students.

THERE is something rather gruesome about getting a cast of a face of a relative or friend, but two young University of Pennsylvania students, Dillard Jefferson Thomas and Norman Garfield Kline, have devised this manner of pleasing their distant relatives. Each one of these ingenious students is skilled in the art of taking plaster casts of the mouth, from practice in the Dental Department, and it occurred to them that it would be interesting to their friends in Missouri to have a metal reproduction of their features. To perform the operation a thick grease is laid on the face, the plaster is put on, and the result is a reproduction of the student's features. After the plaster cast is perfected a duplicate is made of it in some metal, and the whole thing is mounted on a handsome leather plaque, packed carefully up and sent away. If the scheme proves as popular as is predicted, there is no reason why dens and Turkish rooms in future should not be decorated with smiling casts of the faces of one's best friends.—From the Reporters' Nosegay column of *The Philadelphia Record,* January 1, 1905.

Dental Record Staff.

THE Class of 1905 at a recent meeting decided to publish a class record, and elected the following Board of Editors:

D. Jefferson Thomas, Jr., editor-in-chief.

Leland Barrett, E. B. O. Colishaw, Leslie E. Eaton, Walter N. Goldsmith, Chas. M. Kellog, James T. Lillis, Jr., associate editors.

Geo. T. Lemis, business manager.

R. Kelsay Morgan, assistant business manager.

Annie Stout.

ANNIE STOUT, Gold Annie, as she is known among the students and members of the faculty of the Dental Department, is very ill at her home at 4109 Ludlow Street. She was suddenly stricken with serious heart disturbances on Friday, December 30, and was removed to the Hospital. Later she was removed to her home, where she now lies in a critical condition. She has long been in the service of the Department, and no professor is remembered better by alumni for years back, than she. In her affliction she has the sympathy and best wishes of all.

Groupe Francais du Department Dentaire.

THE French students of the Department during the last year formed a club with the above name. The purpose of the club was "for the pleasure of passing a sociable evening and recalling agreeable memories of their life in France." It was also hoped "that all its members would meet again in France, when they had ended their studies in Philadelphia, and there become a permanent influence, and assist in spreading the name of our University."

The following letter, lately received, and which is published in part, shows that their hopes are being fulfilled:

DECEMBER 7, 1904.

DR. EDWARD C. KIRK, *Dean*,
Philadelphia, Pa.:

Dear Doctor:—I am pleased to inform you, that, conforming to the decision of the French Club of the University of Pennsylvania, an effort is being made to have a Pennsylvania Club in Paris.

The first meeting was held in November at my home. There were present, Drs. Robin, '02; Frossard, '03; Morrison, '03; Marks, '04; Cauhèpe, '04; Darcissac, '04; Demeulle, '04; Martinier, '04; Masson, '04; and myself. Dr. Robin said he thought it would be hard to maintain a second club owing to the existence of the American Dentists' Club. Dr. Frossard proposed that we meet, anyway, once every month, and the best way would be to have a monthly dinner. He proposed to have members of any country at the start. He said that after several of these dinners we would know all members of the University living here and could then organize a regular club. This was adopted by all members present, who elected me to secure the co-operation of the other Penn graduates living in Paris. This was done, and, after seeing Drs. Hugenschmidt, Wetzel, Weber, Ryan, W. S. Davenport and Field Robinson, the first dinner was held last Tuesday, November 29. On account of unavoidable circumstances I was not able to be present and Dr. Cauhèpe took my place in charge of preparing everything needed for this meeting. I don't expect a great deal now from our club, but I will do everything possible to help its existence.

The first object is to meet once in a while for the purpose of talking over professional interests; to remember the fine teaching we all owe to our Alma Mater and to let it be known in Paris what the Dental Department of the University of Pennsylvania is able to do in the teaching line.

. . . .

Our next meeting will be held on Tuesday, December 20th.

With my best regards,
Dr. Eudlitz,
3 Rue d'Athenes, Paris, France.

The Annual British Dinner.

The Annual British Dinner of the students of the Department of Dentistry was held on December 6, 1904, at the Hotel Tracy, the guest of honor being Dr. E. C. Kirk. Over forty members, hailing from every corner of the globe, were present. Mr. A. C. Lockett, '05, occupied the chair, and the vice-chairmanship was ably filled by Mr. E. B. Dewhurst, '06.

After ample justice had been done to an excellent dinner, a number of toasts, interspersed with musical selections, were proposed; the King, the President, the Empire, the United States, and the University being duly honored. The speeches sparkled with wit and humor, and pleasant reminiscences of bygone days were recalled under the mellowing effects of the social hour. Songs, contributed by E. B. Dewhurst, '06, and U. S. Ziele, '05, materially added to the pleasure of the evening, and at a late hour, members hailing from the Empire over the seas, after singing their national airs and the favorite songs of Penn, retired for the evening.

Clinics at the Philadelphia Hospital.

Dr. Cryer's clinic of November 5th was attended by 246 students. At this clinic were shown four cases, one being a woman whose throat was almost completely closed by a large carcinoma. The operation of tracheotomy was recommended to be performed. An interesting case of a child of nine years, with necrosis, was next shown. The permanent central and lateral and the temporary cuspid had been lost by a previous operation, and the necrosis had attacked the bone in the region of the six-year molar. In addition to these cases, two of pronounced lead poisoning were also shown, and afforded a good example of the ravages which this affliction can bring about.

On November 12th the attendance was 304, and five cases were brought before the class. An extremely severe case of lead poisoning, the patient suffering intense agony and having all the symptoms of lead poisoning very pronounced, was shown. Two cases of facial paralysis were shown, and a case of facial neuralgia. A case was brought over from the hospital, of a man in whom carcinoma was suspected, and in whom it was necessary to insert a tracheotomy tube. This had been done and he was in comparative comfort.

November 19th Dr. Cryer, in conjunction with Dr. Kassabian, gave a demonstration in the taking of skiagraphs. Three hundred and six persons were present. A number of skiagraphs were taken, principally from among our own students, the results not yet being known.

On December 3d Dr. Cryer spoke at length on facial neuralgia, his talks being much appreciated. Two hundred and eighty students were present.

On December 10th Dr. Nones, dean of the Medico-Chi Dental Department, took charge of the clinic and gave a most interesting and instructive lecture on the preparation of the mouth preparatory to the insertion of artificial dentures. The subject was taken up systematically, and should be productive of much good to the student body at large, presenting to them, as it does, the ideas of a man who has devoted a great deal of his time to this particular study. Two hundred and sixty-eight persons were in attendance.

December 17th Dr. Nones continued his subject, having an audience of 238.

Obituary.

Death of William G. Young.

On the evening of Monday, December 5th, in the students' ward of the University Hospital, William George Young departed from this life to journey in the Great Beyond. We who were his friends can hardly realize that he is gone, for his sunny disposition was so suggestive of life and so foreign to the impression we have of death. With only a few months between him and the professional life for which he was struggling, he was stricken by disease, and in spite of medical skill and kind attention, death claimed him.

The story of his life might be likened unto fiction, were it not for the fact that so many of our country's great men began in the same manner and under much the same circumstances. The success of his struggle, with meager opportunities, is only another illustration of the possibilities of life.

William George Young was the son of Thomas L. Young, and was born June 10, 1874, in Saucon township, Pennsylvania. He attended the public schools of South Bethlehem until, at the age of thirteen, he entered the offices of the Lehigh Valley Railroad Company at South Bethlehem. He was found so faithful that when the offices were moved to Philadelphia, he also came and continued in the company's employ. During his stay in Philadelphia he made many friends, and became a member and manager of the Mt. Vernon Banjo and Guitar Club.

At the age of twenty-five, the promptings of ambition impelled him to devote his evenings, at Brown Preparatory School, to preparation for entrance to the University of Pennsylvania, and in the fall of 1902 he entered the Dental Department. Before the college year was hardly started he came into prominence as a good fellow and a member of the class crew. Perhaps the best indication of what kind of a fellow he was is the fact that he was admitted to membership in the Musical Clubs, the Delta Sigma Delta fraternity, and the Edwin T. Darby Society, in his Freshman year. When death came to him he was vice-president of his class, assistant manager of the Combined Musical Clubs of the University, and Worthy Master of Delta Sigma Delta.

One cannot do otherwise than mourn the loss of a man possessed of his characteristics, and his death seems all the more pathetic, when we consider that he was paying his own way through college, working on electric cars during summer and acting as steward to his fraternity during winter—almost within reach of his professional life; almost to the goal of greater and broader achievement.

A letter from one of his dearest friends says in part: "His work in the fraternity and in college was characteristic of his whole life. Steadfast, earnest, progressive, with the word honor shining brightest of all, expresses his character. He was the truest of friends and his friendship made one the better man for having it, and we cannot say more than this of anyone."

Resolutions of Respect.

At a special meeting of the Class of 1905, Department of Dentistry, University of Pennsylvania, held on December 6, 1904, the following resolutions were authorized:

WHEREAS, it has pleased Divine Providence to remove from our midst our esteemed Vice-President and classmate, William G. Young; be it hereby

Resolved, That it is with sincere regret that we learn of the death of William G. Young, and we extend to his parents and relatives our heartfelt sympathy in their hour of sorrow and bereavement. We realize that while we have lost a brave and true man, a loyal friend and an ardent worker for the good of his fellow-students and the University, the loss to those to whom he was so nearly linked by ties of kindred is even greater, and we humbly commend them to Him who in His infinite wisdom and love has called our late classmate to Himself.

Resolved, That a copy of these resolutions be sent to his parents; that the same be recorded on our minutes and be published in the next issue of the PENN DENTAL JOURNAL and the *Pennsylvanian.*

J. F. McEWEN,
W. N. GOLDSMITH,
CARL S. COFFIN,
Committee.

WHEREAS, God in His infinite wisdom has seen fit to remove from this earth our friend and fellow-member, William G. Young, be it therefore

Resolved, That we, his fellow-members of the Edwin T. Darby Society, have lost a true and worthy friend;

Resolved, That while we bow in humble submission before the decree of a Divine will, we mourn the loss of our member, and extend to his family, in their bereavement, our heartfelt sympathy and condolence.

Resolved, That a copy of these resolutions be sent to the family of our deceased friend; that they be spread upon the minutes of the Society, and published in the PENN DENTAL JOURNAL.

PERCY A. ASHPLANT,
R. K. MORGAN,
LELAND BARRETT,
Committee.

DENTAL SOCIETIES.

The Edwin T. Darby Dental Society.

THE fourth regular meeting of the current year was held on Monday evening, November 28th, at which time Mr. B. Graffam, '05, read a very interesting paper on "Temperament in Relation to Complete Dental Prosthesis," which was followed by the initiation of Mr. Dennis, '05.

At the next meeting, which was held on the evening of December 12th, Mr. G. E. O'Neil, '05, presented a paper on "The Consideration of Materials Used as Base Plate in Artificial Dentures."

Owing to the death of our fellow-member, Mr. William G. Young, resolutions of respect were read at this meeting, and included in the minutes of the Society.

The meeting adjourned after the initiation of Messrs. Wagner, '05, Flint, '07, Sprague, '07, and Hettig, '07.

Edward C. Kirk Dental Society.

AT the meeting of the Edward C. Kirk Society, held November 17, 1904, Mr. Akeroyd read a paper, the subject of which was, "Alveolar Abscess: Its Therapeutic and Surgical Treatment." Mr. Cooper read a paper on "The Treatment and Filling of Root-Canals." Dr. Vickers, '04, read an interesting paper on the "Angle Methods used in Orthodontia." Several new members were admitted into the Society.

December 1, 1904, a paper was read by Mr. Ewing, on "The Treatment of Exposed Pulps." Mr. Capell read a very lengthy and well-prepared paper on "General Principles of Extraction."

Dr. Evan Jones then gave a talk upon the methods used in preparation of cavities for the insertion of porcelain inlays.

One of the most interesting papers of the year was read by Mr. Eaton, the subject being "Obturators," on December 13, 1904. M. Fahy read a paper upon "Lead Poisoning." Dr. Jaco gave an instructive talk upon "The Manipulation of Filling Materials."

At this meeting a vote of thanks was extended to Dr. Cryer for the bone preparations given to the Society to use in studying the anatomy of the head.

On January 5, 1905, Mr. Ferrin read a paper upon "Cleanliness in Dentistry." The subject was well handled, and showed much thought in preparation. Mr. Bain's subject for the evening was "Inflammatory Conditions Met With in the Mouth." It was well handled, and was followed by interesting discussion.

Alumni Notes.

DR. M. A. LEACH, '03, is located in Heppner, Oregon.

Dr. Oscar Freudenfeld, '04, is practicing at 20 Basteigasse, Brünn, Austria.

Dr. C. E. Pyle, '04, and Dr. J. A. Potter, '04, are located in the Perry Building, Sixteenth and Chestnut Streets, Philadelphia.

Dr. Charles E. Gold, '04, was married to Miss Gertrude Valeria Speer, daughter of Mr. and Mrs. Emery Speer, December 28, 1904, at Bangor, Pa. Dr. and Mrs. Gold will be at home after January 3, 1905, in Bangor, where Dr. Gold has an extensive practice.

The marriage is announced of Dr. A. R. Frazer, '03, to Miss Edna Irene Thomson, at Rochester, N. Y.

Dr. Fred R. Forster, '04, of Brisbane, Australia, was married on November 29th to Miss Helen O'Reilly, of Philadelphia, Pa.

Dr. Emerson G. Curry, '04, is now located in the Babcock Building, Plainfield, N. J.

Dr. L. C. Hales, '04, left for New Zealand, via England, on January 13th.

Dr. Ernest W. Vickers, '04, and Dr. S. A. Sands, left for Sydney, Australia, on December 3d. They will stop off in England, where they will take a special course.

Dr. Chas. L. E. Newland, '03, is located at Serrano 5 pral, Madrid, Spain.

Dr. Wm. H. Larrabee, Jr., '03, has opened offices at Cologne, Germany.

Dr. L. R. Mahaffey, '04, has removed from McKeesport, Pa., to 6239 Frangstrom Avenue, Pittsburg, Pa.

Dr. John H. Carter, '04, has opened offices at Albany, N. Y.

Dr. Wm. M. Sullivan, '04, and Dr. Chas. Welsh, '04, have both located at North Adams, Mass.

The news of the death of Dr. Julio R. Martinez, '99, was recently received at the Department.

Dr. J. W. White, '87, has removed his dental offices to room 302 Crozer Building, 1420 Chestnut Street, Philadelphia.

Dr. George T. Cornelius, '88, was married at the Church of the Holy Apostles, Philadelphia, on September 14th, by Rev. N. S. Thomas, to Miss Emma J. Quigley.

Dr. William W. Brash, '03, has moved his dental offices from Ogdensburg, N. Y., to 1534 Broadway, New York City, in association with Dr. S. A. de Waltoff.

Dr. Edward Wood Baker, '04, has opened offices at 119 W. One Hundred and Twenty-first Street, New York City.

Dr. Jean C. Whinnery, '00, Dental Surgeon, U. S. A., has been ordered to report to Vancouver Barracks, Washington.

Dr. Fred F. Andrew, '04, has opened new offices at Philadelphia and New York.

Dr. Ernesto del Pino, '04, is now established at Av. Jaurez 6, City of Mexico, Mexico.

Dr. Horace P. Beck, '96 M., and '98 D., visited the Department during the past week. It might be incidently noted that Dr. Beck was a very prominent and popular student while at Penn. He was one of the greatest cheer leaders Penn ever had and was instrumental in arousing a great deal of college spirit at the University. He organized the University Band. Dr. Beck is Dental Surgeon, attached to the Naval Station at Newport, R. I., where he has an extensive practice. The following letter shows what he is doing:

NEWPORT, R. I.

——— ———:

Please find inclosed a few old has beens, and a practical demonstration of my good right arm,—souvenirs from Uncle Sam's navy, forward and aft, port and starboard, below and aloft.

With best wishes. Yours very truly,

HORACE P. BECK.

University Column.

At the regular meeting of the Board of Trustees, held Tuesday, December 6th, J. Hartley Merrick was elected Secretary of the University to succeed the late Rev. Jesse Y. Buck.

Twelve fraternity chapters at the University have instituted classes for Bible study, under the direction of Rev. Floyd W. Tomkins, of Holy Trinity Church.

Prince Tushimi, of Japan, was an interested visitor to the University during his stay in Philadelphia.

Dean Penniman made an extended trip through the Middle Western States, during the month of December, addressing high and preparatory schools and colleges.

Dr. Frazier, Dean of the Medical School, after a great contest, was elected visiting surgeon to Episcopal Hospital.

The *Olde Penn,* in the number of November 26th, devoted considerable space to the Dental Department, and gave a good cut of the clinic laboratory, which was unfortunately spoiled by a too liberal use of ink. An interesting article on Pierre Fauchard and the ancestry of American dentistry was given, as well as other interesting articles, relating to the Department and to the profession.

The students of the Dental Department learned with delight that President Roosevelt will deliver the address on University Day, February 22d. The president has announced as his subject "Some Maxims of Washington."

This event will, no doubt, be one of the most interesting of the year, and a full turnout of the students can be expected.

The Wharton School, since its entrance into its new and more commodious quarters, has announced a number of new courses, and new departures from the regular college curriculum. The latest is a new course in Insurance, with lectures by prominent business men and men prominent in insurance circles. This department, which might be considered an unique one, in a great university, is probably attracting more attention at present than any other department, and is everywhere highly praised.

Dr. Wharton Sinkler, '68 M., has been elected a trustee of the University. He is a prominent physician of Philadelphia, but is better known to the students as the father of Wharton Sinkler, Jr., end on the 'Varsity football team.

The averages of the senior medical class, as compiled by the registrar of that department, for the purpose of ascertaining the twenty-five men who stand highest in the class, has been published. From these are usually selected the resident physicians in the University Hospital for next year. Harry A Schatz, with an average of 96.3, leads the class, with George M. Piersol, '02 C., son of Prof. Piersol, second, with an average of 94.3. Of the first twenty-five in the class, eighteen have taken the bachelor's degree in college, as follows: Pennsylvania 5, and one each in Princeton, Yale, Harvard, Gettysburg, Missouri, Oberlin, Franklin and Marshall, Haverford, Carleton, Bates, Ohio, Muskingum; while seven have not taken a full college course.

All the University newspapers give accounts of many interesting and enthusiastic meetings of University of Pennsylvania clubs in different parts. To these, high school and other prospective college students are invited and made acquainted with Pennsylvania. These meetings must have good effect and will certainly lead to a greater growth in all the departments. In all these meetings, dental men have prominent parts.

Pennsylvania won the Triangular Chess League Tournament, between Cornell, Brown, and Pennsylvania, at New York. The score was: Pennsylvania won 5, lost 3; Cornell won 4½, lost 3½; Brown won 2½, lost 5½. Last year Cornell won the match, and later a match was arranged with the members of the Quadrangular League, composed of Yale, Princeton, Harvard, and Columbia. This match was won by the Triangular League. A challenge has been sent by the Triangular League for a match this year, but no arrangements have been made yet.

The Eleventh Annual Relay Race will be held this year on April 29th, one week earlier than last year.

The 'Varsity crews will not have the use of their old training house at Poughkeepsie this year, as Bellevue Villa, the summer hotel which has been used by the Pennsylvania crews for years, has been destroyed by fire.

A NOVELTY in the line of intercollegiate debates will take place on March 10th, when the Intercollegiate Triangular Debates, between Cornell, Columbia, and Pennsylvania, take place. In these debates, each college has two teams of three men each, one team debating on the affirmative side, and one on the negative side against a team from one of the other colleges. All three debates take place on the same night, one at each of the three different colleges.

A PHOTOGRAPHER, with two views of the University Campus and one of the Clinical Laboratory of Dental Hall, did a large business for a short while in the entrance to Dental Hall. There is a great demand for good photographs of the University Campus and Buildings among the students, and a dealer who will have these taken and offered for sale in good size and of good quality can expect a large sale.

The Dedication of the New Gymnasium.

BEFORE an audience which completely filled the hall, the new Gymnasium was dedicated and formally turned over to the University. Dr. White, chairman of the committee, turned the building over to the trustees, and it was accepted for them by Provost Harrison. Dr. McKenzie also made an address outlining the work to be done in the new building. Dr. White's address was brilliant and interesting. He announced the gift of $50,000 from the late William Weightman, as an endowment in trust for the general advancement of physical education and athletics at the University, and also that a training house for the use of the University teams would soon be constructed, the plans then being prepared. He said in referring to athletics: "We have, like our competitors, had our lean years and our fat, our years of want and those of plenty; but we have seen at one period or another, and often for successive seasons, the Red and Blue the acknowledged leader on the river, on the track, on the diamond, and on the gridiron, and our average performances in competitive sport will compare favorably with those of any of our rivals." Speaking of football: "When a team, such as our own the last season, plays football that shows great endurance, dauntless courage, fierceness in attack, obstinacy in defense, wisdom in conception, brilliancy in execution, perseverance and self-denial and college spirit in everything—what wonder, again, that the University, whose colors it has carried to the front, should exultantly celebrate such an achievement, or that the entire city, proud of its University and of its boys, should join in the celebration!"

Provost Harrison, in giving the history of Franklin Field, said:

"This new Gymnasium is set upon Franklin Field. In discussing the question as to the proper site for the institution which Franklin desired to see, his own language is that he 'would like to have it, if not in the town, not many miles from it; the situation high and dry; and if may be, not far from a river; having a garden and orchard, a meadow and a *field* or two.'

"It is more than curious, it is gratifying, to see how, with such a development as Franklin never dreamed of, the situation of the

University corresponds in the main with his ideal. 'In the town,' and yet, with such domain and surroundings as to give an almost rural aspect. The situation high and dry, as he desired; a river close at hand; the garden and meadow features surrounding Biological Hall; and the *field* to which he referred, our own athletic ground, which bears in honor the proposer's (Franklin's) name."

Universities in Large Cities.

At a "Columbia University night," given last Wednesday evening in New York City at the Manhattan Hotel by the Quill Club, President Butler is reported as saying that there are no limitations to the growth of modern cities, and that there can be no university in the modern sense save in a great city. "I do not know," he said, "what will become of those noble and self-sacrificing institutions in the smaller towns, but I do know that the city universities will develop along special lines because of their special environment, and I know that their development will be the best. The scholar filled with the impulse of service is going to seek his home in the dark, gray city, and seek to make it less dark and less gray."

Professor Brander Matthews, who took the same view, said that "no one to-day would think of founding a university at New Haven, at Ithaca, or at Princeton. If Yale wishes to study the fine arts she has to divert funds to buy the objects of study, but Harvard can turn to the galleries of Boston."

If these views are correct, no university in the United States is in a better location than the University of Pennsylvania, which is within ten minutes of the center of a population of almost two millions, and within a short distance of some of the greatest industrial establishments in the country, large public and private libraries, art galleries, preparatory and professional schools, hospitals and medical schools, law Courts, museums, and public institutions of every description.—*Olde Penn.*

Sporting Notes.

PROBABLY not since its organization has the JOURNAL been able to review a football season with as much praise for the work of the team and all those connected with it, as it has this year.

Starting with the prospects little better than in 1903, as far as material was concerned, and with that determination characteristic of every true Pennsylvanian, the football team of 1904 worked itself up from practically a second-class team to be champions of the

East. Although Yale lays claim to the championship of 1904, however, after careful consideration of the past season of both teams, Penn has been given the preference by the greatest football critics in the country.

In making up his All-American team this year, Walter Camp did not hesitate in giving Smith, Stevenson, and Piekarski places upon it, while Weede, '06, of the Department was first choice for end on the second eleven. This is only one instance showing the respect in which Pennsylvania was held by those connected with rival universities.

The one individual having the most to do with the success of the team is, without doubt, our little head coach, Dr. Carl Williams, and by his resignation as head coach, the Athletic Association has one of the hardest positions connected with athletics to fill. The student body as a whole, and, especially in the Department, are greatly disappointed that Dr. Williams will not be able to coach the team through, at least, another prosperous season.

The JOURNAL wishes to congratulate Dr. Williams and the Board of Coaches for their efforts toward the success of last season; also Captain Torry and his team, collectively and individually; and last, but not least, the Scrub, whose hard work all the season was one of the strongest factors in attaining success. We hope that when the evening of November 30, 1905, comes, Captain Reynolds will be able to look back over a season equal to the one just closed.

Those in the Department awarded their "P" were: Kase, '05, Weede, '06, J. Hollenback, '05, and W. Hollenback, '07. Those awarded their "Penn" were: Lemis, '05, Roberts, '06, Longwell, '07, and Bradley, '07.

ROWING.

The call for rowing candidates was issued early in the month, and, on the sixth of January, a large number of men reported. The prospects for a good crew is, without doubt, the best in recent years, as there [illegible] seven of last year's 'Varsity back, and by the caliber of some of the new men, the old men will have to work hard to retain their old positions. Those in the Department who have reported so far are: Stevenson, '05, Hervey, '05, Leaming, '06, Lipschutz, '06, Nuffort, '07, Aller, '06, Beach, '07, Gowen, '07, and Martens, '06.

TRACK.

Dr. Shell has his men out every day for practice, and, although he has not much to say, it is a good sign that he has them hard at work, and when the time comes, the representatives wearing the spiked shoe for Penn will be well to the front. From the Department may be found Gunn, P.-G., Eaton, '05, Davies, '06, Roberts, '06, and Weede, '06, in training for the track

SWIMMING.

It is not hard to see that the Dentals are very much "in the swim." If anyone doubts it, let him visit the tank in the new gymnasium on almost any afternoon about five o'clock, and if he does not then agree with us we will be much surprised. At a meeting of the swimming men early in the year, Molle, '05, was elected captain of the polo team. Among those most prominent in the water are: Molle, '05, Cowlishaw, '05, Coe, '05, Brothers, '05, Lemis, '05, and Haskins, '06.

BASEBALL.

As yet nothing definite can be said about the baseball candidates, as a call has not been issued, but, without doubt, the Department will be well represented. Lockwood, '05, Kirkham, '05, Smith, '05, Lemis, '05, Barry, '06, Scott, '06, Simpson, '06, Hay, '06, Gleason, '06, W. Hollenbach, '07, Bradley, '07, Longwell, '07, and Dwyer, '07, will probably be found among the candidates when the call is issued.

On the basketball squad can be found Sprague, '07, and Flint, '07.

The Senior-Freshman football game took place late in November, and resulted in a tie, after a very close and exciting game, during which the Freshmen came within six inches of scoring.

Exchanges.

We are pleased to acknowldege receipt of the following exchanges: *British Journal of Dental Sciences, Rivista Italiana di Odontoiatria, The Stomatologist, The Austrian Journal of Dentistry, The Bur, Tijdschrift voor Tandheilkunde, Odontologisk Tidskrift, Vierteljahrsschrift für Zahnheilkunde, The Western Dental Journal, The Dental Record, The Dental Review, The Dental Cosmos, Items of Interest, The Dental Digest, Dominion Dental Journal, The Articulator, The Pacific Dental Magazine Gazette, The Pennsylvania Dental Times, The Olde Penn, The Alumni Register.*

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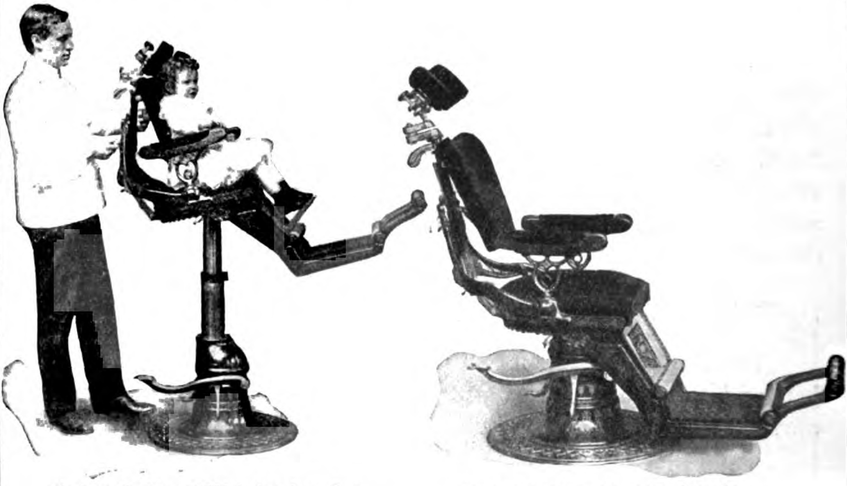

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FOR DENTAL ENGINES

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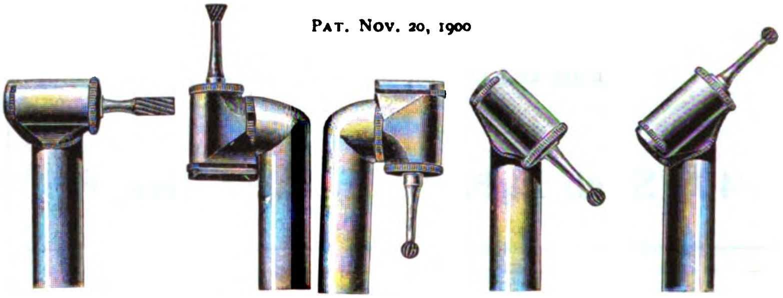

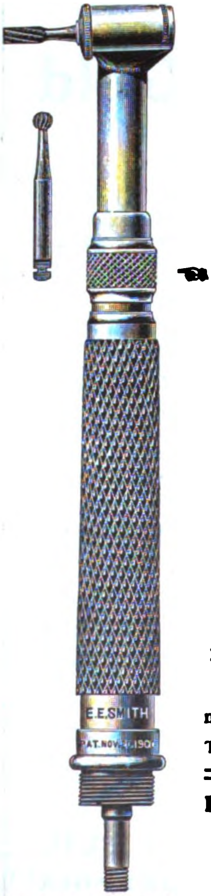

Fig. 1.—For Slip Joint Connection.

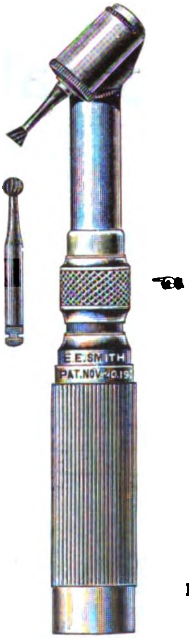

Fig. 2.—For Universal or Cone Journal Hand-piece.

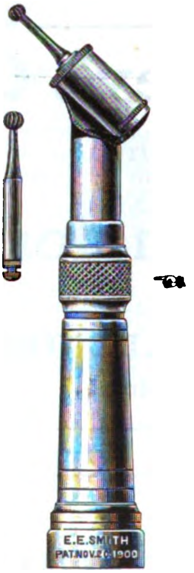

Fig. 3.—For Doriot Hand-piece.

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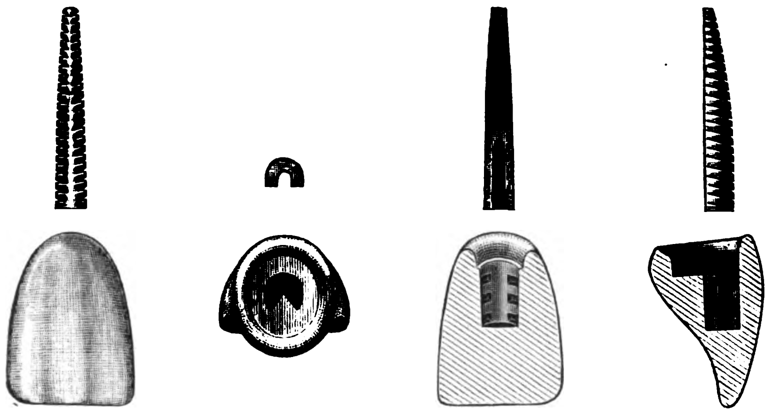

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It has all the admitted advantages of the detached pin crown without any of the objections.

RIGIDITY The shape, both of the cavity or recess in the Crown and of the base of the pin, cause the pin to be held rigidly, it can neither twist nor tilt.

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BEAUTY These crowns have the additional superiority of the Justi Porcelain and the Justi Shades, while the molds are worthy of our reputation, which means that they are unequalled.

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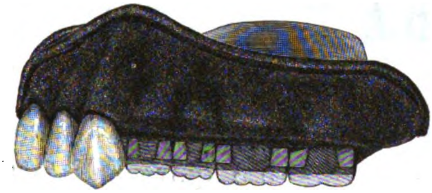

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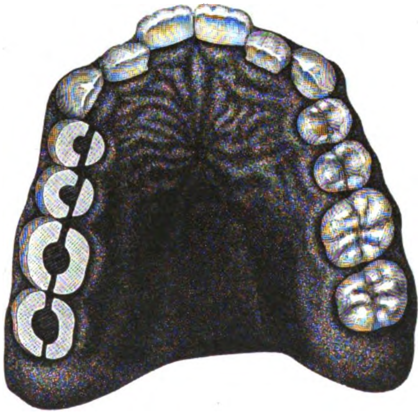

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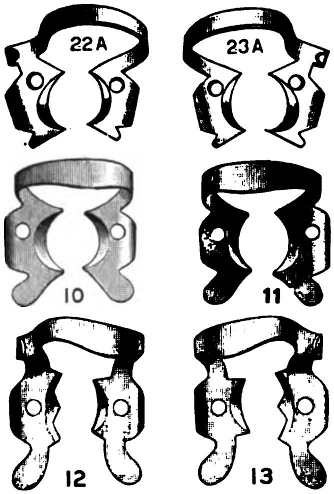

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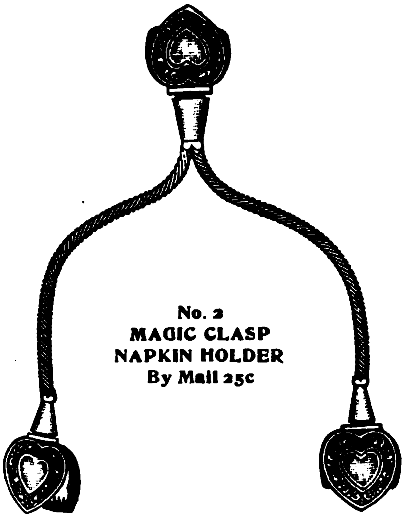

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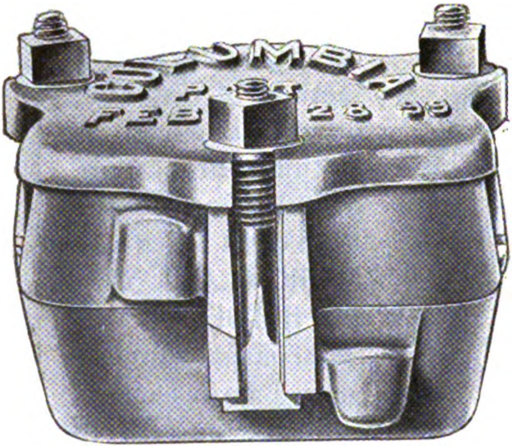

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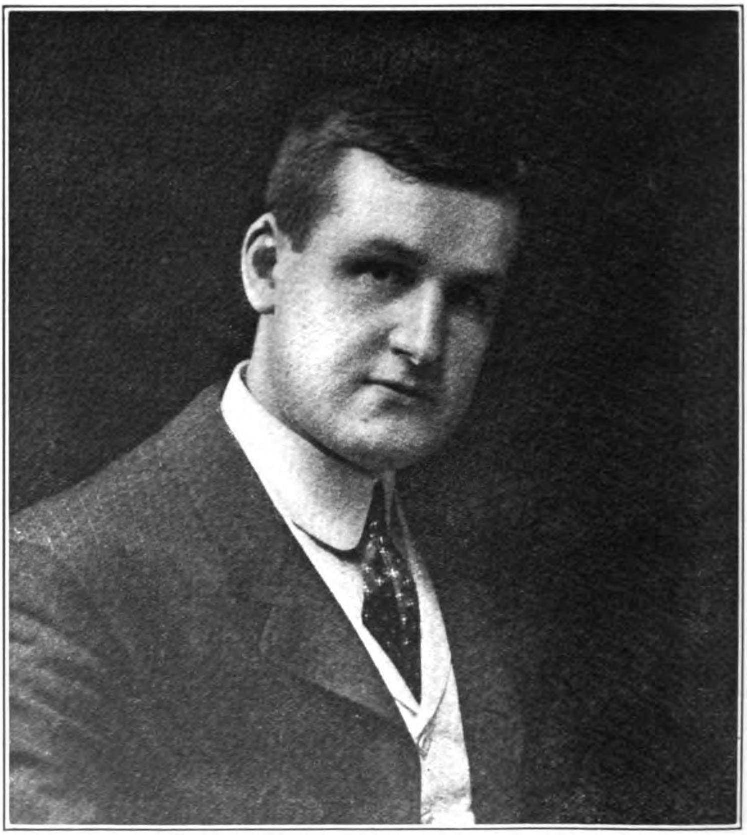

DR. WILLIAM D. MARSH.

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THE
PENN DENTAL JOURNAL.

Vol. VIII. MARCH, 1905. No. 3.

COMMUNICATIONS.

A Brief Résumé of Pressure Anesthesia.

BY DR. ALBERT N. GAYLORD, 1898.

THE effort to obtund the sensitive structures of the teeth by the aid of cocain is by no means new. Ever since the introduction of this most valuable drug our profession has sought to render dental operations painless by its employment, in various forms and methods, both simple and complex.

Within a decade, cataphoresis has come and gone. The sanguine hopes which were realized when first this method was proclaimed, have, to a surprising degree, been placed upon the high shelf, accompanied by costly apparatus, which has long since been discarded. Not because it did not fulfill all that was claimed for it, but in obtaining the desired results an extravagant expenditure of valuable time was required, which patients were unwilling to pay for, and which the operator could not render gratuitously.

No one will dispute the possibility of forcing a cocain solution into a tooth by means of a properly controlled electric current, and by that means render both the dentin and the pulp insensible to pain; but, alas! cataphoresis was not the ideal.

Among the methods which followed were the employment of chlorid of ethyl and ethereal solutions of cocain. The latter, commercially known as vapocain, has been quite extensively used, and by some lauded enthusiastically. The greatest difficulty encountered and the probable cause of general failure was the difficulty in so confining the vapocain within the cavity that sufficient pressure could be secured through the rapid volatilization of the ether to force the unvolatilized portion into the fibrillæ of the dentin.

At about the same time, the profession was confronted by an individual, who extorted a fee of twenty-five dollars for imparting the confidential information and direction relative to the method which today is very generally employed and known as pressure anesthesia. It is very doubtful if this businesslike person was the originator of the idea which he was successful in selling to quite a number of our professional brothers. Many of the men who were his victims were magnanimous, and generously passed on to their friends and neighbors gratuitously the information which had caused them to part with twenty-five hard-earned dollars.

The writer was one of the fortunate ones who, in the early months of his career, was enabled to put this method into practice through the kindness of a friend.

Not finding universal success, it was not long before the hypodermic needle was brought into play. In cases where the pulp seemed to be superficially effected by the cocain, but where a broach could not be carried deeply into the structures without the experience of pain, the use of the hypodermic proved itself to be a very valuable adjunct.

The long bevel of the needle was removed by grinding, leaving the end at a right angle with the long axis. This end was then made as sharp as possible by beveling the orifice of the needle by running into the end a cone bur revolved in the engine, or by giving a corresponding bevel outward by the aid of a fine sandpaper disk. A needle thus prepared can be easily carried into a pulp, superficially anesthetized, deep enough to close the orifice without encroaching seriously on sensitive tissue, and the pulp subsequently injected with a cocain solution. This procedure will be found very helpful in many cases of hypertrophied pulps, the surface of which is often quite lacking in sensation, also in cases where arsenical applications have failed to render the entire pulp insensible. In many cases, an application of a saturated aqueous or chloroform solution of cocain lightly applied to the exposed and highly congested pulp, where pressure would be excrutiating, will sufficiently anesthetize the surface to permit the careful insertion of the needle, after which the pulp is quickly and easily injected.

Success in one direction usually brings us to the achievement of greater results; each success is a stepping-stone to something new. So it has been with the writer, in the use of the hypodermic syringe.

In the spring of 1901 a patient somewhat past middle life presented herself, requesting that a crown be placed on a broken-down superior lateral. This tooth, owing to its color and impaired condition, was supposed to be lacking in pulp vitality, whereupon an opening was drilled extending toward the apex. After the bur had been carried a short distance, instead of opening into a putrescent canal, the patient showed marked indications of pain. Upon careful examination, not the slightest sign of a pulp could be found, and yet there was a marked sensitiveness. Having promised the patient that she should not leave my chair until a temporary substitute had been placed upon the root, the position became somewhat embarrassing. I could no longer drill in a direction to make an exposure owing to the sensitiveness, and the arsenic was too slow to assist me in making my promise good. In this case, necessity proved to be the mother of invention, and gave birth to an idea which has grown and developed, giving almost never-failing success and satisfaction.

The procedure was as follows: A small hole was drilled into the tooth a little deeper than the cutting blades of a spear-point drill. The taper of the drill was first increased and made as sharp as possible. Obviously, the bottom of the hole drilled had the same taper as the drill. Next a reinforced hypodermic needle was selected, and the end ground straight across at a right angle with the long axis. After filling the syringe with a one per cent, aqueous solution of cocain, the square-end syringe point was forced tightly into the tapered bottom of the hole drilled into the tooth. The contact thus made was practically water tight, and allowed great pressure to be exerted without any considerable leakage. After exerting pressure for about half a minute, it was found that sensation was absent, and upon the return of the drill it was carried some little deeper before sensation was again experienced. A second application of the syringe allowed the hole to be drilled still deeper, and the continued alternate use of the syringe and drill afforded a means of satisfactorily forming a canal, the pulp having become obliterated so far as could be found.

This method was afterward tried on normal teeth, and found to work equally successfully, and, in connection with the so-called pressure anesthesia, has reduced the use of arsenic in my hands to a minimum.

In January, 1902, I presented this method to the Philadelphia Academy of Stomatology, it being recorded in the proceedings of that organization, and is, so far as I can learn, the first suggestion of dentin injection by means of a syringe.

At the present time, the market is flooded with extravagant instruments of various forms, for the purpose of injecting dentin. Many of them are valueless, and none of them will do any better work than a perfect-acting hypodermic syringe.

In selecting a syringe, one which has as large a plunger as possible will add ease and efficiency by way of presenting a broad surface to the palm of the hand. The less the diameter of the cylinder, the less will be the loss of the power applied. The writer has had most excellent success with the Parke-Davis syringe, which has an extension beyond the cylinder, giving support to the plunger, and also giving greater length between the finger-clips and the plunger-head, which affords an easier and better expenditure of the contracting force of the hand.

Following is a formula for a cocain solution, which has given me very gratifying success in all classes of hypodermic work. It works equally well in the gums, pulp, or dentin.

Cocain hydrochlorate	grs. x;
Carbolic crystals	grs. v;
Atropin	grs. 1/5;
1% solution nitroglycerin	♏ x;
Aqua pura	f℥ ij.

Some Inflammatory Conditions of the Oral Cavity.

BY C. E. BAIN, '05, L.D.S., VICTORIA.

[Read before the Edward C. Kirk Dental Society.]

THE object of this paper is not to dwell on the great number of diseases which may affect the mouth, but rather to draw your attention to a few of the chief abnormal conditions of the gums, mucous membrane, and tongue met with in general practice.

The tongue and mucous membrane of the gums are peculiarly liable to a large number of diseases, and it is worthy of note that several of the ulcerations which occur on the gums also appear on the tongue. The chief inflammatory conditions met with in the mouth are pyorrhea alveolaris, gingivitis, stomatitis and its various forms, and hypertrophy. There are also inflammations and ulcerations due to systemic diseases, such as syphilis, tuberculosis, typhoid fever, scurvy, purpura, etc. There are also the various tumors and the affections of the glands and ducts. It is not my purpose to touch on any of the conditions met with outside the chief inflammatory ones already mentioned; that is, gingivitis, pyorrhea alveolaris, stomatitis, the principal affections of the tongue, and the conditions due to syphilis.

The discussion in this paper of the minute individual conditions and treatment of each of these inflammations is out of the question, and I purpose taking them in a broad sense only.

Some little confusion often arises from the use of the terms *stomatitis* and *gingivitis*. This can be avoided by bearing in mind that inflammation of the mouth, where the gums, buccal mucous membrane, and other mucous surfaces are involved, is termed *stomatitis,* while inflammation affecting the gums only is called *gingivitis*.

Gingivitis may be general, or limited to the gum margin. At the necks of the teeth the gum is attached to the periodontal membrane in such a way that it leaves a free margin round the tooth, and forms, as it were, a pocket. In this pocket a mass of round, gland-like epithelium may be discerned. This mass of cells, although suggesting the formation of a gland, fails to assume the glandular structure. However, it seems to have the function of selecting and eliminating from the blood certain poisons, as in lead and mercurial poisoning. This elimination produces hyperemia or inflammation, consequently the gums often have a purulent discharge and a marked tendency to hypertrophy. Overhanging edges of fillings, badly adjusted crowns, injudicious use of clamps, and the escape of escharotic drugs are also some of the causes of gingivitis. These act mainly by producing pockets at the gum margin, in which lodgment and subsequent fermentation of food take place.

Symptoms.—The free margins of the gums are red and painful and bleed freely on slightest touch. Slight pressure will cause a thick, creamy discharge to exude around the necks of the teeth.

Treatment.—If the cause is local, the source of irritation must be removed, the pockets around teeth syringed out with peroxid of hydrogen, and an astringent mouth-wash prescribed. If case is severe, the application of powdered tannic acid to the gums twice daily should be recommended. If due to general cause, this must be treated and local measures carried out as described above.

Pyorrhea alveolaris.—This disease consists of a slow removal of the alveolus, and a gradual loosening of the teeth, accompanied by a muco-purulent discharge from the free edges of the gums. It may be limited to a few teeth, but, in most cases, it attacks the whole mouth, eventually rendering it edentulous.

Cause.—It is still a very debatable point whether the cause is purely local or constitutional. It is certainly true that the condition is frequently found in patients suffering from gout, rheumatism, typhoid fever, etc., thus indicating a systemic origin. It is also true that patients who have never had any of these complaints have had pyorrhea, and patients who have lost their posterior teeth very frequently have pyorrhea in their anterior teeth, due to the extra stress and consequent wounding of the gums produced by continuous use of these teeth.

Treatment.—The tartar should be removed and the pockets thoroughly cleansed. Mercuric chlorid, peroxid of hydrogen, sulfuric acid, or any other equally effective germicide may be used for this purpose.

Sulfuric acid is supposed to have the most beneficial action, but copper sulphate packed into the pockets every two or three days with an orangewood stick has shown splendid results, marked improvement being noted after two or three weeks' treatment. There is, however, always liability to recurrence, and, in numerous cases, treatment is very unsatisfactory and seems of little avail.

Stomatitis.—This really means inflammation of the mouth, but this name is given to inflammations of the mouth which involve the gums, buccal mucous membrane, and other mucous surfaces, and can be separated from other known conditions. Stomatitis is much more prevalent in childhood than in adult life. It may be divided into simple, catarrhal, parasitic, aphthous, ulcerative, and gangrenous.

Simple stomatitis is recognized by the red surface of the mucous membrane, showing the congested condition of the capillaries below the surface.

Catarrhal stomatitis—Although similar in character, it is really an aggravated form of simple stomatitis, and is generally associated with inflammation of the throat and nose.

Symptoms of simple and catarrhal stomatitis are increased salivation, redness, heat, pain, swelling, diarrhea, and disinclination to take food.

Causes.—Frequently seen in the course of exanthematous fevers. May arise from gastro-intestinal disturbances, excessive use of tobacco, and too highly seasoned food.

Treatment—A mild purgative and a mouth-wash of boracic acid or chlorate of potash should be prescribed.

Parasitic stomatitis (thrush).—This is common in infants, and may occur in adults as result of specific fevers.

Symptoms.—The mucous membrane becomes covered with numerous white spots about the size of a pin's head; these are circular and gradually coalesce, forming large patches. These patches mostly appear near the angle of the mouth and also on the tongue; when whitish surface is removed, a deep reddish color is revealed.

Cause.—When thrush occurs in children they are generally found to be out of health, the bowels are relaxed, and motions burning and painful. Many cases of thrush are due to dirty feeding-bottles. It is essentially a disease of parasitic origin. It often occur in adults as result of specific fevers and tuberculosis. When it occurs in the latter condition, it is usually an indication of fatal termination.

Treatment.—Must be both local and general. Mouth must be carefully wiped with soft lint, and then washed with a solution of boracic acid, carbolic acid, or chlorate of potash. Sugar must not be given, as it forms a splendid medium for the culture of the bacilli. The use of borax and honey is contra-indicated. Attend to the health generally, and give mild aperient. The case should yield readily to above treatment; if it does not, the ulcerated surfaces should be touched with a solution of silver nitrate, 5 grains to 1 ounce of water.

Aphthous stomatitis.—This usually appears at the period of first dentition, and consists of slightly raised grayish spots on inner sides of cheek, on lips, tongue, and frænum linguæ; these spots being surrounded by an inflammatory zone.

Cause is unknown, but the form is usually associated with rickets and weak and sickly children.

Treatment.—Cleanliness is of great importance; frequent use of chlorate of potash as mouth-wash. General health must be attended to.

Ulcerative stomatitis generally commences at the free margins of the gums, and, if neglected, the sides of the cheek will be affected, due to contact with the gums, which become swollen and congested, and bleed on the slightest touch. There is not much pain in early stages, and consequently it attracts little or no attention. Later, there is extensive sloughing, teeth become loose, breath fetid, and, if disease is not checked, may extend to necrosis and even end in death of patient.

Treatment.—Local and general. Mouth must be cleansed and surfaces touched with solution of silver nitrate, 5 grains to 1 ounce. Plenty of fresh air and exercise. Mild purgatives, and, internally, chlorate of potash 2 to 5 grains, three times a day after meals.

Syphilis.—The next condition is the appearance noted in the mouth in a case of secondary syphilis. The first or primary stage is the appearance of the chancre; this, although most frequently seen on the genitals, may appear on the lips or tongue, if inoculation has been caused by contact during kissing. Dentists are really most interested in the appearance of the *secondary* lesions in the mouth, and it is well to note these symptoms carefully. They usually appear from second to fourth month after primary sore, and consist of superficial lesions of the throat and tongue. There is usually first an inflamed or catarrhal throat and mucous patches on the tongue and throat. These patches vary in size and are whitish-gray in color, as though recently touched with $AgNO_3$, and are raised slightly from surrounding mucous membrane. They are usually seen on inner sides of cheeks and lips, and on sides of tongue. There is often ulceration of the tonsil, and even hypertrophy of previously healthy tonsil. The intense infectiousness of secondary syphilis must always be remembered, and the greatest care observed in handling the patient and in the sterilizing of instruments, etc.

We will now pass on to some of the diseases of the tongue. It is necessary that the affections of this organ should be familiar to every dentist, as he will see them in the mouth long before the patient is aware of any abnormal condition. Therefore, it behooves him to be able to recognize the character of the disease, that he may be able to act immediately and put the patient on his guard.

Chronic superficial glossitis.—By this we mean, as the name would imply, a chronic inflammation of the mucous membrane of the tongue. This originates in the papillæ.

Predisposing causes.—Excessive smoking, spirit drinking, syphilis. A large proportion of these cases end in epithelioma, consequently they need to be recognized and treated early. It occurs most commonly in men.

Symptoms.—The tongue may be smooth, red, devoid of epithelium, and may have varnished appearance, or it may have white patches of thickened epithelium which are raised above normal level of mucous membrane of tongue. These patches cannot be removed without hemorrhage, and are usually associated with cracks and fissures in the tongue. This latter condition is known as leucoplakia.

Treatment.—The condition, unless taken in very early stages, is incurable, but soothing and antiseptic mouth-washes may give relief.

Next we have the various ulcerations of the tongue, and these, may be classed under the following headings: simple, epitheliomatous, syphilitic, tuberculous, rodent, and lupoid.

Simple ulceration may be dyspeptic or dental. Dyspeptic ulcers are most frequently found in badly-fed children or over-fed adults, and the condition is usually associated with derangement of the stomach. The ulcers are found chiefly on dorsum or sides of tongue near tip. They are usually superficial.

Treatment.—Attend to the dyspepsia; use chlorate of potash as mouth-wash, and, if ulceration is severe, touch with $AgNO_3$ solution.

Dental ulcer (irritable) is superficial and often quite painful, both in speaking and eating.

Cause.—They are usually caused by friction with a rough or sharp edge of tooth, tartar, etc., and usually appear on tip or side of tongue.

Treatment.—Remove cause; use antiseptic mouth-washes.

Epitheliomatous ulcer.—Cause:—May arise from neglected simple ulcers, syphilitic cracks and fissures, warts, chronic superficial glossitis. These ulcers have certain characteristic features: Raised hard edges. Surrounding mucous membrane indurated. Pain. Usually occur in patients past age of 40. Usually situated on anterior third and side of tongue, opposite rough edge of tooth. Profuse salivation. Speech interfered with.

Syphilitic ulcers.—The distinguishing features of these ulcers are: The edges are sharply cut. Surrounding mucous membrane is not indurated. There is little or no pain. Usually situated on middle third of tongue. There is not profuse salivation. Speech is not interfered with.

It is a very difficult matter often to distinguish between an epitheliomatous ulcer and a syphilitic one, but if the age of patient, position of ulcer, its origin, appearance, and the history of patient are taken note of and a microscopical examination made at once an accurate diagnosis may be arrived at.

It will be gathered from these facts how absolutely important it is for the dentist to warn the patient of the presence of a wart or fissure on the tip, side, or, indeed, any part of the tongue, and the dentist should insist on the patient having skilled surgical advice at once, especially if he be past middle life.

In the common inflammations of the gums, etc., described in the first part of this paper, it will be noted that certain symptoms seem to be general throughout many of the forms, and, also, that the remedies to be applied are almost always the same. In fact, the more common ulcerations, when treated in the early stages, will be found, nearly always, to yield readily to the applications of mouth-washes containing chlorate of potash, boracic acid, or carbolic acid. In severe cases the use of a solution of silver nitrate may be resorted to. The complete success of the treatment lies in the maintenance of absolute cleanliness of the mouth; in washing of all ulcerated surfaces with antiseptic and astringent mouth-washes; in attending to the general health and surroundings of the patient; in eating wholesome and nourishing food; in taking plenty of fresh air, and in the administration of mild purgatives.

Carcinoma of the Tongue.

BY CARL S. COFFIN, 1905.

[Read before the James Truman Dental Society.]

It is with a great degree of hesitancy that I bring this subject before the Society.

I am persuaded to do so because of the statements made to me by medical men that if we as dentists better understood the dread disease, carcinoma, it would be possible for them to handle it far more successfully, and would ultimately lead to the saving of many a human life.

We are all sadly aware of the fact that cancer, in its advanced stages, is practically an incurable disease. The only treatment that is offered is the removal of the growth with the knife. The resuit of such an operation is the prolongation of life; seldom does it afford a complete cure. The operation for carcinoma is undertaken by the surgeon with the greatest dread and apprehension. It is very infrequent that he sees a case before the infiltration of the glands has been accomplished, and when once such a state of affairs exists, he is positive of his prognosis. With credit may it be said of the surgeon that the direful outcome of his operation is due, in a good number of cases, to the fact that he did not have the handling of this disease in its infancy. Could the treatment of cancer begin in its primary stage, it would result, in very many cases, in the saving of life.

Carcinoma is common in nearly all portions of the body, and it is especially frequent on the lips and tongue.

The profession of dentistry has advanced away beyond that medieval period when it meant the extraction of a tooth with some crude instrument. With the greater knowledge has come the greater responsibility. It is a grave duty that the dentist owes to humanity to be able to diagnose carcinoma at any portion of the anatomy with which he is daily brought into contact. It is not the dentist's duty to operate, but it is his full duty to be able to assist the surgeon, by sending him the patient at that stage of the disease when it is curable.

It is a matter of interest to note the prevalence of carcinoma. Climate, habits of life, sex, and age exert a marked influence upon it. It is less prevalent in the torrid than in the temperate zone, and is more frequent in damp, low-lying districts. Negroes and the aboriginal races seem to be somwhat exempt from the disease. Few cases of cancer have been reported among the North American Indians. We are obliged to admit that this affection belongs to our higher civilization. England suffers greatly from cancer. The registrar-general's report for England and Wales shows that the disease has increased four hundred and fifty per cent. in the last half century. In our own country, cancer is especially prevalent in New England, New York, Pennsylvania, and Ohio. The mortality is greatest in Western New York and in a limited area of California. The disease is least prevalent in the Mississippi Valley and in the Southern States.

The occurrence of carcinoma, increased as it is by our high mode of living, varied by climatic conditions, and prevailing greatly in low, marshy soil, might lead us to conclude that its etiology lay in parasitic origin.

Of late, much has been said about the supposed origin of the disease. That the true cause of carcinoma is a parasite and that the organism has been differentiated is now held and taught by some schools. However, this is not the accepted theory, and finds but few supporters. In the University of Pennsylvania, such a theory is not advanced at all. Old as the disease is, its cause is unknown. The theory generally accepted is that all carcinomatous growths are due to the presence within the mesoblastic tissue of misplaced embryonic epithelial cells of congenital or post-natal origin. The predisposing cause of the growth is diminished physiological or vital resistance either of the entire organism or of the particular location surrounding the tumor matrix. The agencies which bring about this condition of the system are, first, a general weakness due to heredity; second, traumatisms; and, third, local pathologic lesions.

Cancer of the tongue is always of one variety, viz, epithelioma.

"An epithelioma, as its name indicates, is a degeneration of an epithelial surface, usually of the skin, and consists of masses of epithelial cells surrounded and separated by bands of connective tissue." It belongs to malignant growths. It is most apt to attack those beyond middle life, and is more common in men than in women.

Epithelioma of the tongue commences as a small crack, nodule, or ulcer, usually on the side of the tongue. The posterior half is much less commonly affected than the anterior. By statistics it is shown that this disease usually appears between the ages of forty-five and fifty-five.

Smoking predisposes to cancer, as many cases are preceded by leucoma of the tongue. The same condition is often produced by dram-drinking and syphilis. The scars left by psoriasis, syphilis, or an injury of any kind may predispose to cancer. An irritation such as a sharp tooth, the stump of a tobacco pipe, or a badly fitting plate may excite ulceration, which will lead to the same result. It is unquestionably true, however, that cancer of the tongue may originate without any pre-existing disease or irritation, but in the majority of cases some form of irritation is the exciting cause.

Whenever such a nodule or ulcer, as has been mentioned above, has appeared on the tongue of elderly people, it has been the custom of many practitioners to cauterize such a sore repeatedly, for which purpose nitrate of silver has been used. This custom, according to the best authorities on surgery, is most pernicious. Such a treatment, while it will result in doing no good, may do infinite harm. Provided the ulcer is cancerous, to cauterize only aggravates it, while if the ulcer is a simple non-malignant sore, to cauterize, by the continued irritation which it provokes, may change the non-malignant ulcer to one of malignant type. To use any caustic on a malignant ulcer not only aggravates it but puts off that time of operation to a period when to operate is of little use.

Whenever an ulcer appears on the tongue of any person over forty years of age, let us regard it with suspicion and, if there be any doubt as to the nature, a portion of the healthy tissue surrounding the sore should be excised and placed under the microscope, when the character of the tissue will reveal the nature of the disease. Leucoplakia has many times terminated in epithelioma.

In our diagnosis of cancer of the tongue, let us then remember that the disease makes its first appearance either as a blister, an ulcer, a fissure, a pimple or tiny tubercle, a warty growth, or a nodule upon the surface or within the substance of the tongue.

The ulceration is the most common form. It appears with indurated and elevated margins and is usually seen on the border of the tongue.

Less frequently, the disease begins as a nodule within the substance of the tongue, which nodule slowly enlarges and shows itself upon the surface.

More rarely still do we find that the disease appears to originate beneath the floor of the mouth and never comes to the surface, but is felt as a hard, indurated mass beneath the chin. The tongue is so drawn down as to be deeply indented at some one point.

When carcinoma of the tongue has once started, it develops with great rapidity. One reason for this fact is that the lingual muscles are continually contracting, and, as a result, cancer cells are forced along the lymph spaces to healthy tissue.

The ulcer rapidly infiltrates not only the tongue, but also the floor of the mouth and the gums, and finally the jawbone itself.

The tongue becomes fixed, and its motion is so limited that it cannot be protruded. When the disease has reached this stage, the neighboring glands gradually become enlarged. Just prior to this, there is a tenderness in the submaxillary region, with pain, which shoots toward the ear. During the first infiltration of the glands, they are movable, but, as they increase in size, they become fixed.

If the glands are affected early, the case is unfavorable, especially so if the cervical glands immediately outside the angle of the jaw become involved. As the disease progresses, deglutition and speech become difficult; there is profuse salivation, and a horrible fetor of the breath. Patients die frequently because of the cutting off of some large vessel found in the path of the growing ulcer. It is more frequently the case that death is produced from exhaustion due to pain, sleeplessness, starvation, and sloughing. The average duration of the disease, in patients who have had no operation, is from one year to eighteen months. Many cases succumb in one year and few live longer than two years.

It is entirely without the realm of this paper to attempt any description of the treatment of carcinoma. To attempt the operation that the disease indicates is a work outside our profession.

As to a general knowledge of the subject may this much be said of the treatment. Epithelioma of the tongue should be radically removed at the earliest possible moment. As to the treatment by caustics, pastes, etc., according to the best authorities, such a course would not only be useless but harmful. Prior to any surgical operation, all stumps of teeth should be removed. For several days the teeth should be scrubbed twice each day with a brush and soap, and the mouth rinsed with peroxid of hydrogen. The nares and nasopharynx should be sprayed with H_2O_2 and then with boric acid solution every two hours while patient is awake.

This paper would not be complete without reference to those diseases with which epithelioma of the tongue may be confounded. These are syphilitic ulceration, tuberculous ulcer, and simple ulcer.

First. As to syphilitic ulcer: The situation of the ulcer and the history of the case enable one to form an opinion. Syphilitic ulcers are usually preceded by induration or the existence of a lump at that point. In cancerous ulcers, the induration does not precede, but follows the ulcer. Cancerous ulcer is always single. Cancerous ulcer occurs chiefly on the side of the tongue, syphilitic ulcer on the dorsum. In ulcer of tertiary syphilis, the sub-maxillary glands are rarely enlarged; in cancerous ulcer they are always enlarged.

Second. Cancerous ulcer as related to tuberculous ulcer: In both, the glands are enlarged. The history will either point to one or to the other. The tubercle bacilli should always be sought; and when a tubercular ulcer appears, the lungs will always be involved.

Third. To distinguish a cancerous ulcer from simple ulcer is not always easy. If a simple ulcer is suspected, a cause such as a carious tooth, traumatism, and glossitis should be looked for. Simple ulcers rarely have much induration about the base, but cancerous ulcers are remarkable for the deep infiltration of the surrounding parts. Should an ulcer not heal readily in a person over forty-five, it should be excised and a microscopic investigation be made.

The Saliva as an Etiological Factor in Certain Dental Disorders.

BY A. R. WALKER, 1905.

[Read before the James Truman Dental Society.]

A GREAT deal is known, at the present time, in regard to saliva as the predisposing cause of many of the dental diseases, but more will be known within the near future as to some of the more obscure systemic diseases being clinically diagnosed by a study of the composition and quality of the saliva.

Before passing to the saliva's direct or indirect action in causation of certain oral disorders, a brief *résumé* of the anatomical, histological, and physiological aspects is imperative.

With regard to the anatomical features of the glands that secrete this fluid which, collectively, we term saliva, suffice to say that the saliva is a product of the parotid, with its associated portion, the socia parotidis, of the submaxillary, sublingual, and buccal glands.

The histological and physiological aspects are, however, worthy of a more extensive review, as one must be more or less conversant with the phenomena taking place in these especial glands to thoroughly appreciate the subsequent changes which occur. Histologically, the salivary glands present, in the quiescent condition, a marked similarity, but after functional activity a decided change is noticed. It is after this latter stage that the nature of the glands may be studied, and they may be differentiated into certain classes or groups.

Thus, three classes are recognizable, viz:

(1) Serous.
(2) Mucous.
(3) Muco-serous or mixed.

The parotid exemplifies the serous type; the sublingual, that of the mucous, and the submaxillary, that of the mixed variety.

It is evident from these facts that saliva, a product as it is of these several glands, must of a necessity be mixed in character. The chemical analysis of saliva itself is absorbing the time of many ardent investigators, who have as their motive a further insight as to the saliva's effects in the predisposition of certain diseases. As a preliminary to such investigations, the six-drop test is employed.

(1) The first, to ascertain whether saliva under consideration is alkaline or acid.

(2) For ammoniacal salts.

(3) For sulfocyanides.

(4) For chlorides.

(5) For glycogen, and this is a very important compound to isolate, if existent in the saliva. This substance is thought by some to dialyze readily through the osmotic membranes of the blood-vessels, when the blood is overcharged with it, as in glycosuria, and in this way make entrance into the salivary glands, and later into the saliva.

The glycogen being a carbohydrate is by some supposed to exert, when found in the saliva, a marked influence in augmentation of caries.

(6) For acetone, which, when present, gives a characteristic odor of iodoform, when the saliva containing such compound is treated with a crystal of potassium carbonate and one gtt. of Gram's iodine solution.

From these facts, we see that investigations in this field of study are being carried out on a thoroughly scientific basis.

The physiological aspect must now be considered. It is a well-known fact that the activity of any portion of the human economy is more or less dependent upon the quantity and quality of the blood in that portion. That the salivary glands are no exception to this rule is readily proved.

Functional activity and rest of these glands is based, broadly speaking, on this principle, coupled with that of the nervous mechanism concerned in salivation.

As is clearly shown by physiological experiment, two distinct sets of secretory fibers exist, one concerned chiefly in secretion of water and inorganic salts, the other engaged exclusively in production of organic matter. These sets of fibers, in the normal state, operate in unison, and give, as a result of stimulation, the normal secretion.

However, should any pathological condition exist, as impoverished blood, superabundance of certain salts, as in gout, biliary compounds, etc., they will, in all probability, have some detrimental action upon these secretory fibers, resulting in abnormal secretions from these glands.

This abnormality of secretion is, by some, attributed to faulty metabolism; by others simply to a superabundance of certain substances in the tissues and circulation, making themselves manifest in the excretions of the body. The first, *i. e.*, "faulty metabolism," is the more rational view to take as the cause for the above conditions, for, as we well know, the system is capable, normally, of assimilating to its own needs, the exact quantities and proportions of substances necessary for its growth, development, and functional activity.

Should these substances be presented to the tissues in such form that assimilation is inhibited or annulled, pathological conditions would ensue, and just such departures from the normal are manifest in gout, dropsy, etc.

During such diseases, certain characteristic features of the disease are discernible in the secretions. Thus, in diabetes, sugar has been isolated from the urine and saliva, and again in acute dyspepsia an acid condition of the saliva is often evidenced. Many examples of these conditions could be brought forth, but only those having any bearing on saliva will be given. Dr. Michaels of Paris asserts that he has demonstrated clearly the presence of biliary pigments in the saliva taken from individuals of biliary diathesis, and further, that such pigments may be seen in histological preparations taken from these same persons. He also shows that in products taken from alveolar pyorrhea, biliary pigments were in evidence.

Dr. Kirk has, by means of the polariscope, isolated from the saliva, during systemic disorders, oxalates and urates of sodium, and lactophosphates.

Thus, from the foregoing it is seen that the blood may be abundantly supplied with all the essentials for the maintenance of its physiological activity, but the proportion of acid, or alkaline-forming elements, for example, may be in excess of the normal, and conditions are existent predisposing to a gouty, acid, or alkaline diathesis. Many of the obscure cases of characteristic acidity or alkalinity of the saliva could on this hypothesis be readily explained, as there must be some factor for conditions of acidity other than that based upon putrefactive and fermentative changes coupled with elimination of CO_2 from the system. Dr. Kirk bears out this statement in his paper on "A Case of Dental Erosion."

He proves conclusively that sodium acid phosphate may be in such excess in the saliva that rapid erosion is the result. I shall refer more fully to this later on. From these premises it must be admitted that any of the abnormal constituents found in saliva, or even an increase in quantity of normal constituents, must be a potent factor in the causation of many of the pathological conditions existent in the oral cavity.

From these remarks, I will attempt to show that such conditions as erosion, ranula, salivary cysts, and salivary calculus can all be attributed to the saliva.

The saliva in such conditions may not necessarily be the direct cause, but simply the chemical expression of the systemic condition of the individual.

Thus, treatment of any such pathological states empirically or locally is simply arresting, for the time being, such conditions, but to successfully combat these conditions, systemic treatment must be instituted.

With regard to erosion as referable to an abnormal condition of the saliva, I would refer you to Dr. Kirk's able paper on "Dental Erosion." He states that such conditions (other than mechanical, as in friction with tooth-brush, clasps, etc.) are simply the expression of faulty metabolism, evidenced in the saliva.

Chemical erosion takes place principally through the agency of an acid, and Drs. Kirk, Smale and Colyer, all come to the same conclusion in regard to what acid causes disintegration of enamel substance, and to the manner in which such acid is formed.

The blood becoming overloaded with CO_2, as in gouty diathesis, the conversion of the sodium phosphate, a normal constituent of the blood, into sodium acid phosphate is readily accomplished, as the sodium phosphate, in the presence of CO_2, readily parts with one atom of its sodium, forming the acid sodium phosphate.

The system becomes overcharged with this acid salt, and it is taken up chiefly by the kidney, but to a lesser extent by the buccal glands. The latter exude this acid compound, slowly eroding the teeth. Again, an increase in certain of the constituents of the saliva is now considered as a predisposing cause of dental caries, and is given as such by Smale and Colyer. These writers advance the idea that caries is predisposed in a mouth containing more mucin than normal, and that such mucoid saliva clings readily to the necks of the teeth, thus affording lodgment for food débris. This condition they attribute more to arrested secretion of the other elements of saliva than to an excessive secretion of mucus. In other words inspissation or condensation of the saliva occurs.

Dr. Black states "that caries of the teeth has its beginning only when conditions of the oral secretions are favorable to the micro-organisms carrying on their activity, and forming gelatinous plaques, which plaques adhere to the surface of the teeth."

Dr. Michaels makes the statement that the saliva contains definite chemical principles which arrest or retard the progress of decay. Ranulas and salivary cysts also are referable to conditions of the saliva as to their etiology.

Mucin has great affinity for water, and it is based on this fact that ranula may occur. If, from any abnormal condition, condensation of saliva occurs and mucin is greatly in evidence, when saliva is ejaculated from the particular gland secreting this mucilaginous saliva, an absorption of water at once takes place. Swelling of the glandular duct ensues, and through this swelling an obstruction to passage of freshly secreted exudate results. The natural sequence to such conditions is ranula. Just such a case is recorded by Dr. McFarland of this city.

Salivary calculus undoubtedly is traceable to the condition of the saliva. The commonly accepted theory is that the calcium salts are held in suspension by CO_2. As this gas escapes, the calcium salts are precipitated, with the result that concretions are formed around the necks of the teeth—in the salivary ducts themselves—or even on foreign bodies existent in the mouth at time of deposition.

This, however, is only one of the many theories advanced for this condition, but as the object of my paper is not so much the explanation of the *modus operandi* for such conditions, but more to show that saliva, in itself, may be the cause of these pathological conditions, I will refrain from giving any more data with regard to salivary calculus.

Even carcinoma may have its origin from the irritating action of abnormal saliva, causing a stimulation of those latent embryonic cells which, according to the generally accepted theory of Cohnheim, are the basis of all neoplasms.

From these remarks, you will see that many of the mouth affections that we, as dentists, will be called upon to treat, are either directly or indirectly attributable to some departure from the normal of the saliva, and that we, as dentists, should be in a position to combat such disorders either systemically or locally as the case indicates.

Hypodermic Injections in Tooth Extraction.

BY NORMAN G. CLINE, 1905.

[Read before the Edwin T. Darby Dental Society.]

Owing to the powerful physiological action and the variation of susceptibility of different individuals to the toxic action of the drugs used by hypodermic injections into the tissues for the purpose of producing a state of analgesia, it is the opinion of the writer, after studying all of the data collected, that this is not a method applicable, with satisfactory results in all cases, for the extraction of teeth. If, however, great care is exercised in asepsis, the agent administered, and the condition of the patient, there is no reason to exclude this method from the dental practice. There will be times when the dentist will find it not only convenient to use it, but will almost be compelled to do so. For example, a dentist receives a night call for extraction from someone who does not feel disposed to endure the pain incident to that operation, when nitrous oxid and other anesthetics are not available.

It is, therefore, the object of this paper to call your attention to the importance of having a thorough understanding of this operation, to insure good results, and to remind you that the drugs used for this purpose are of a very poisonous nature. After the introduction of cocain by Koller of Vienna, for surgical purposes, this agent was recommended by dental surgeons for use in tooth extraction.

COCAIN.

The alkaloid, cocain, was first obtained by Goedeke, in 1860, from the leaves of the erythroxylon coca, and was found to have the formula $C_{17}H_{21}NO_{41}$. In the pure state, cocain is in the form of transparent prisms, odorless, and has a bitter taste. When applied to the tongue it imparts a degree of insensibility, followed by a slight sensation of cold. It is soluble in 700 parts of cold water, in alcohol, and ether. It forms soluble salts with acids, and its hydrochlorate is the one that is used principally for hypodermic injections.

The full dose, by the stomach, of the hydrochlorate is about $\frac{3}{4}$ of a grain. A safe amount for hypodermic use is not in excess of $\frac{1}{8}$ of a grain.

PHYSIOLOGICAL ACTION.

When applied to the peripheral nerves it paralyzes them. Its action is first upon the sensory fibers, followed by action on the motor fibers. It is stated by Dr. Cryer to cause ascending degeneration on the nerve trunks. When taken internally, or when absorbed from injection, it first stimulates cardiac and respiratory functions, followed by a reaction, giving way to depression.

Cocain is very toxic if given or injected in an overdose, and must be considered one of the poisonous alkaloids. One-eighth of a grain is considered a safe dose when injected, but toxic effects have been produced upon administration of that amount in women, who were found to be very susceptible to it.

TOXIC EFFECTS.

Toxic effects may be produced in the following ways:

1. From an excessive dose.

2. Impurities in the solution, as cocain in some commercial preparations is found to contain a very poisonous alkaloid, isatropylcocain.

3. From improper insertion of the needle. If the point were inserted into a bloodvessel, the drug would enter directly into the systemic circulation.

The toxic effects produced by any given quantity of this agent will vary with the individual, as some people are much more susceptible to the action of cocain than others, and the mucous membrane varies as to its absorptive capacity also in different subjects.

TOXIC SYMPTOMS.

Trembling of the limbs, especially the legs; headache, vertigo, palor, a cold, moist skin; feeble, rapid pulse, which in grave cases becomes imperceptible; slow, shallow respiration; incoherence of speech, nausea, vomiting, unconsciousness, tremors and other spasms, epileptiform attacks, dilated and unequal pupils, and disturbances of the circulation ending in dyspnea and asphyxia.

TREATMENT.

The treatment for the toxic effects due to any of the causes is to restore circulation by stimulants, as the toxic effects are usually manifested by a contraction of the vessel walls. Stimulants may be used in many forms, but the most effective and most used is amyl nitrite. Amyl nitrite pearls, containing ♏ iij, is a very convenient form to use, as all that is necessary is to crush one of the pearls in a handkerchief, and allow the patient to inhale it. Whisky or brandy to the extent of half an ounce, alone or in combination with gtts. xx of aromatic spirits of ammonia, is another effective stimulant. Should these efforts prove fruitless, artificial respiration should be resorted to at once.

Patients upon whom a hypodermic injection of cocain is made should not be sent away for at least one hour after the operation, as in some patients toxic effects have not been noticed for fully an hour after application, when a state of depression was experienced. Cocain has been used in various percentage solutions, with equal results, but no matter what strength solution is used, not more than ⅛ grain of cocain should be administered.

Low percentage solutions are preferable on account of the ease in determining the amount injected, and, also, if the tooth has more than one root, or if more than one tooth is to be extracted, it allows an injection over each root of the tooth or of the teeth.

Cocain should never be used alone, but should be in combination with some physiological antidote that will not neutralize its analgesic properties. Morphine is used for this purpose. It should have another ingredient that will prevent contraction of the arteries. Trinitrin is said to have this property. Any solution used for hypodermic injections should be rendered sterile before using. Solutions of cocain cannot be boiled, as it will split up into other compounds; therefore, some antiseptic must be added to render them sterile. Carbolic acid has been used, but it increases the liability of sloughing of tissues incident to cocain preparations. Cocain solutions must be freshly prepared, as fungi develop in old solutions and render them unfit for use. To obviate this difficulty, something must be added. Cinnamic alcohol has been used for this purpose. Cocain possesses very good anesthetic properties, but owing to the difficulties encountered in sterilization, as mentioned, to fungi in old solutions, and to the elaborate prescriptions required to make its use safe, it should be condemned for this use. It is preceded by other agents having equally as good anesthetic properties, which do not possess, to the same extent, the liability of toxicity. Eucain and tropacocain are both preferable to cocain.

EUCAIN (BETAEUCAIN).

This is a synthetic compound and has been used extensively as a substitute for cocain. Eucain hydrochlorate is the form in which it is used.

Eucain hydrochlorate is a colorless, crystalline powder, and is soluble in 30 to 33⅓ parts cold water.

Its advantages over cocain are:

1. It is less toxic.

2. Produces a greater degree of analgesia, so the dose need not be larger than for cocain (½ to ¾ of a grain, maximum dose).

3. It produces hyperemia instead of ischemia.

4. A permanent, sterile, aqueous solution can be made, which will not lose these properties. Fifteen to twenty minims of a 2

per cent. solution is said to be sufficient to produce complete anesthesia for the extraction of a tooth.

Sloughing, however, has been known to occur with eucain, but Reclus speaks of having used it in over 4000 operations without any serious results.

TROPACOCAIN.

Tropacocain is another agent used for hypodermic injections, and has decided advantages over cocain.

1. It is only one-half as toxic.
2. Has only slight action on the cardiac ganglia, with no action on respiration.
3. Produces anesthesia more quickly.
4. Is slightly antiseptic.

Dose, ⅓ to ⅔ of a grain.

Dorn, a German dental surgeon, speaks of its use, in the form of a 3 to 4 per cent. solution, in over 300 cases, with most favorable results, as no toxic effects were produced.

THE SYRINGE AND THE MODUS OPERANDI.

The syringe for this purpose should have the following requirements:

1. It should hold a drachm of solution.
2. Have good strong finger-rests.
3. Fine, sharp points, reinforced half of their length.
4. Means of determining the exact amount injected.

The syringe should be absolutely sterile at all times before it is used. This may be accomplished by repeated washings in a 25 per cent. solution of phénol sodique, without damage to any of the metallic parts.

The mouth of the patient should be washed several times with a good antiseptic, for the purpose of rendering the parts to be anesthetized aseptic. This may be done by using a 3 per cent. solution of formalin or pyrozone.

The gums are next dried and touched with a 20 per cent. solution of cocain, or with carbolic acid, full strength, at the point where the needle is to be inserted. If cocain is used, a period of 5 minutes must elapse before inserting the point, then the tissues will be found to be painless to the needle. The syringe is now filled, the piston depressed to remove any air, inserted about midway between the neck of the tooth and apex until it strikes the alveolar process, then withdrawn slightly and the desired amount injected. A second injection may be made immediately opposite the apex of the tooth, and if the tooth has more than one root, each may be treated in the same manner. Injections should never be made into the submucous tissue between the gums and the cheek, nor between the periosteum and bone, as alarming results are obtained. When local anemia is produced, it is manifested by a pronounced whiteness, then the tooth may be extracted painlessly. After extraction, an antiseptic hemostatic should be applied to the alveolus. Phénol sodique is a good one.

WHEN HYPODERMIC INJECTIONS ARE CONTRA-INDICATED.

When the tissues are in a state of lowered vitality, as they quite often are, a hypodermic administration would surely mean necrosis of tissues and sloughing. Persons with a weak heart, organic heart disease, neurotic individuals, or pregnant women would be unfavorable subjects.

PROPRIETARY PREPARATIONS.

There are many preparations on the market for local anesthesia, the majority of which contain cocain. It is not advisable to use proprietary preparations, unless you know their exact constituents, and that they possess merit. In conclusion, I trust this paper may have clearly shown that cocain and other agents used for local anesthesia are not as innocuous as they are supposed to be by some practitioners, but require skill in their use.

PRACTICAL SUGGESTIONS.

Repairing Fractures in Rubber Dam After Adjustment.—Take a piece of surgeons' adhesive plaster of the proper size, slightly warm it, and cover the puncture. It will effectually seal the opening. I got this idea from Dr. Pherrin of Central City, Iowa, and I believe it is original with him.—J. V. Conzett, *Dental Review.*

Protection of Cement While Setting.—In cases where moisture can be excluded from a cement filling but a short time, press a piece of tin-foil over the fresh cement. It will adhere and protect the surface until hard.—M. G. McElhinney, *Dental Review.*

Flaws in Bridge Soldering.—When a flaw occurs dust a particle of flux, clean out the depression with an inverted cone bur, and fill with crystal gold.—A. W. Thornton, *Dental Review.*

Sensitive Labial or Buccal Cavities.—Erosion areas at the gum margin can be prepared for the insertion of filling, with but little pain to the patient, by applying dry tannic acid. This will not produce any bad after-effects.—I. NELSON PLATT, *Dental Review.*

Sensitive Dentin.—Erythrophlein chlorid is the agent *par excellence* for the treatment of sensitive dentin. It has no caustic action, its effect being merely one of intense vasoconstriction. The insertion of the gutta-percha sealing is followed by no discomfort, the symptoms of pericementitis which may occasionally develop being very slight. Its absolute innocuousness makes it especially applicable to the devitalization of the pulps of deciduous teeth. A dressing of erythrophlein chlorid permits of painlessly excavating hypersensitive cavities. Remove at the expiration of twenty-four and *not more* than forty-eight hours.—M. ANDY, *L'Odontologie.*

To Keep the Gingival Margin Dry Without Rubber Dam.—Prepare the cavity and place a napkin in position. Saturate a little floss silk, or small, loosely twisted thread of absorbent cotton with thin cement. Dry the cavity, and pack the silk or cotton around under the gum margin. This method is often useful where the rubber and clamp are in position and the rubber is stretched so that it does not pass under the gum margin at the sides of the clamp.—R. E. SPARKS, *Dental Review.*

To Clean Molten Zinc.—When melted add a teaspoonful or two of ammonium chloride, stir briskly with clean iron spoon, skim off the dirt, and the zinc will pour like water and at a lower temperature than before it was cleared. The same process will purify tin, lead, and babbitt metal.—B. E. MEAD, *Dental Digest.*

EDITORIAL.

IT seems appropriate at this time, when most of the members of the Senior Class are considering the question of locating, to again bring before them some of the things that are expected of them by the Department and by a great majority of their fellow-members. The JOURNAL, as the students' organ, would impress all with what is expected of them in regard to maintaining the ethical standard of the profession. No one can fail to be impressed with the subtle influence working in this line in the Department, which, given impetus by the faculty, is taken up by the students, to a great extent, and has become a sort of second nature part of the Department, and the JOURNAL, feeling that repetition is one method of impressing a thing upon the mind, will for this purpose repeat what has been said, in other words, before.

Dr. Turner, while editor of the JOURNAL, said, in an editorial: "Not only are our students specifically instructed in the details of the written code of ethics, but they are surrounded by an atmosphere which, after three years of life in it, should neutralize any mistaken ideas with respect to the code which students might originally have possessed."

While we hope that no diploma of the Class of 1905 will ever be seen in an office in which the highest standard of ethics is not maintained, we call the attention of each member of the Class to the fact that the Department and the Class as a whole expect you to live up to the standard set you, and in no way to hurt the good name of either by engaging in anything but an ethical practice.

A Correction.

IN the January issue of the JOURNAL, we made the statement that "colleges not sustained by endowments, and dependent upon the tuition fee received from students for their maintenance, are opposed to the longer term; while those endowed and those connected with universities, being independent of income from student sources, having in mind only the advancement of the profession, favor it as a rule."

This statement was made without investigation as to the maintenance of dental colleges, and while the statement implies more than it was meant to express, we are glad to correct any false impression that might have been secured from it.

There are, as far as we know, no endowed dental colleges.

We have always been under the impression that some colleges had been aided in securing their buildings and other equipment by gifts from individuals, and this, together with the fact that colleges connected with universities are not run for profit, and that no dividends are declared, led us to use the word "endowed" and to make the statement given. We are informed that the Dental Department of the University of Pennsylvania is as much dependent upon student fees for its maintenance as any other college, and has no endowment, nor has it ever received directly or indirectly any financial aid from the State.

DENTAL SOCIETIES.

James Truman Society.

THROUGH a slight misunderstanding on the part of the writer as to the time of going to press of the last issue of the JOURNAL, no account of the meetings of this Society appeared in that number The person to whom this matter was entrusted wishes to make due apology for his neglect.

On the evening of November 17, 1904, Dr. Jaco gave an exceedingly interesting talk, his subject being "The Technique of Inserting a Gold Filling." The value of his discussion lay in the minute way in which he described the preparation of cavities, and also the manner in which the gold should be condensed when in position. That his address was appreciated is shown by the fact that his methods are practiced daily in the operative clinic. Later in the evening, papers were read by Messrs. Coffin and Thompson. The subject of Mr. Coffin's paper was "Carcinoma of the Tongue," and of Mr. Thompson's, "Pyorrhea Alveolaris."

At the next meeting, December 3d, the Society was fortunate in having present one of its former members, Dr. Vickers, of the Class of 1904. Having just completed a course in orthodontia with Dr. Angle, in St. Louis, Dr. Vickers was well prepared to handle his subject, which was "Some of the Essential Features in the Taking of Impressions for Orthodontia Work." In addition to this, Dr. Vickers spoke of the various operations seen by him in St. Louis.

At this meeting, papers were read by Messrs. Luce and Hodgson. The former chose for his subject "Elementary Syphilis," while Mr. Hodgson spoke on "Luxation of the Mandible."

At the meeting held on December 15th, Dr. Turner was the invited guest of the evening. His address on the subject, "Emergencies Met with by the Dentist in the Practice of His Profession," was highly entertaining and instructive. Dr. Turner's talk was of value in that it dealt with those problems which may unexpectedly confront the dentist, the correct handling of which is extremely essential in the building up of a respected practice.

The assigned papers of the evening were read by Mr. Hellman and Mr. Kirkham. The theme of the first paper was "Specialization in Dentistry," and of the second, "Diseases and Treatment of Deciduous Teeth."

The first meeting after the holidays was held on January 5, 1905, when Dr. Gritman addressed the Society. Dr. Gritman took especial pains to explain, in detail, the absolute necessity of obtaining the correct articulation of artificial teeth as may be secured by the use of the anatomical articulator. He was listened to with the closest attention, and spent some time in answering a number of questions. The papers discussed by the Society were read by Messrs Griffith and Voelker, Mr. Griffith's topic being "Hemorrhage following Tooth Extraction," and Mr. Voelker's, "Sociological Aspect of Dental Caries."

On the evenings of January 19th and February 16th, the invited guests were, respectively, Dr. Otto Inglis and Dr. Roberts, of this city. Dr. Inglis addressed the Society on the subject, "Pathological Conditions of Teeth," illustrating his talk by the use of specimens.

Dr. Roberts' address may be placed under two heads: (*a*) "Orthodontia," (*b*) "Bleaching of Teeth." The high standing held by these men in the profession makes any comment on their talks unnecessary. Papers were read by Messrs. Stevenson, Stoltz, and Brouthers, the subjects, in order, being "Cocain," "Salivary Calculus," and "Adenoids."

On February 2d, the Society listened to a very instructive talk given by Dr. Weeks, under the heading "Orthodontia." Dr. Weeks endeavored to make his address informal, that each member might, by taking notes, derive lasting benefit from his discussion. The papers of the evening were read by Mr. Campbell and Mr. Walker, the subjects in order being: "Some Features Necessary to the Selection and Fitting Up of an Office," "Saliva."

While no comment has been made as to the worth of the original essays, we wish to state that, with rare exception, the papers have been up to or above the standard previously maintained by the Society. In almost every instance a general discussion has followed the reading of each paper, and the points of interest brought out and debated. While the difficult problems have not always been unanimously agreed upon, the discussion has, no doubt, led to the further search on the part of the student and to the settlement of the question in the quiet of his own room.

Edwin T. Darby Dental Society.

AT the meeting held on the evening of January 16th, Mr. Senior read a paper on "Shall We be Professional Men or Business Men?"

This was followed by Mr. Ashplant, on "Gold Inlays," and Mr. Barrett read a paper, the subject of which was "Overuse and Disuse of the Teeth."

Messrs. Hunter, '05, and Zulauf, '05, demonstrated their ability, at this meeting, by riding the goat.

The Society had the pleasure of listening to Dr. Gritman on the evening of February 6th. He enlightened our knowledge on the subject of "Articulation of the Teeth."

Mr. J. H. Carey read a paper at this meeting on "Public Dental Education," and Mr. D. J. Thomas read one on "Orthodontia."

On February 20th, Mr. W. A. Barker took for his subject, "Alveolar Abscess," and Mr. N. G. Cline followed with a paper on "Hypodermic Injections in Tooth Extractions."

Mr. Miles D. Wagner read on the subject of "Experience in Dentistry as Related to the Keeping of Records."

The meeting adjourned after the initiation of Messrs. Shaffer, '05, Westerberg, '05, and Kirby, '07.

Dr. Edwin T. Darby delivered a highly interesting and instructive address on "The Importance of Detail in Dental Practice," at the meeting of March 6th.

Mr. Morgan read a paper on "Specialization in Dentistry," and Mr. Eves chose the subject of "Metallic Stains of the Teeth and their Removal."

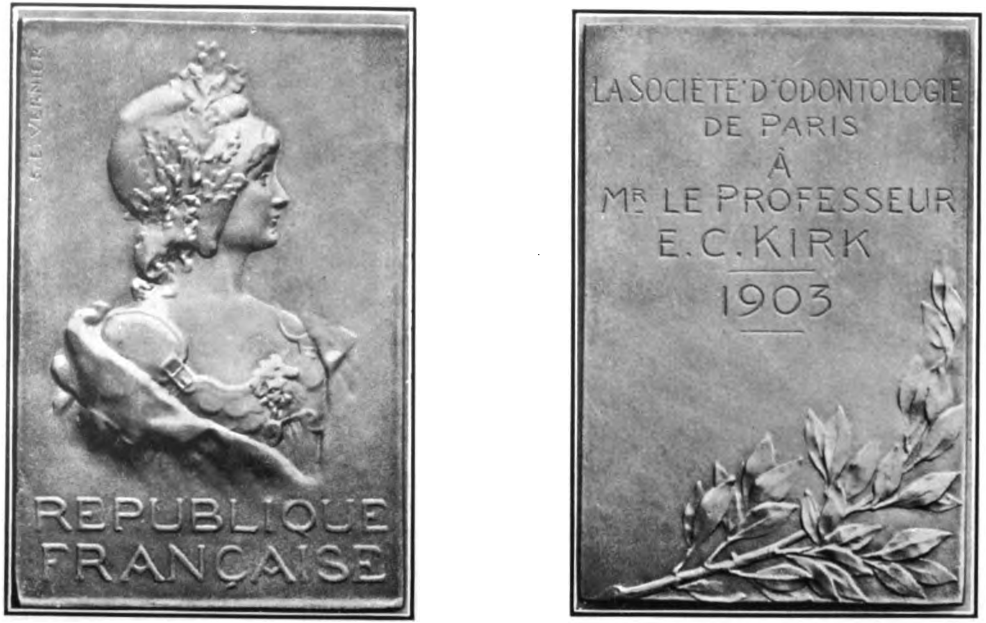
The goat was again exercised, the candidates being McEnany, '05, Lemis, '05, and Merriman, '06.

Edward C. Kirk Society.

At the regular meeting of January 19, 1905, Dr. Gritman, the speaker of the evening, delivered a very instructive and entertaining discourse upon "The Articulation of Artificial Teeth." The papers for the evening were read by Mr. Crane, on "Suggestions on Banded Crowns;" Mr. Herrington, on "Anesthesia," and Mr. Herr, on "Root Preparation and Seamless Crowns."

The meeting of February 2d was opened with a paper by Layman, on the subject, "Hygienic Care of the Teeth." The second paper was read by J. T. MacDonald, entitled "Soldering." The third paper, "Alloys of Silver as Basis for Vulcanite Dentures," by T. F. MacDonald.

Dr. W. L. J. Griffin, historian for the International Dental Congress, read a paper upon "The Early Struggles of the Dental



MEDAL OF LA SOCIÉTÉ D'ODONTOLOGIE DE PARIS.

AWARDED TO DR. EDWARD C. KIRK.

Colleges in this Country," giving valuable statistics and records which took many years of hard research to collect.

At the meeting of February 16, 1905, three very interesting papers were read by Mr. Harrower, on "Hyperemia of the Pulp;" Mr. Hollenbach, on "Somnoform," and by Mr. Neil, on "Hypersensitive Dentin."

Dr. McKay entertained the Society with a talk upon "Porcelain Crowns."

The following members were elected by the Society: Lombard, '07; Aller, '06; Stevens, '06; Wallace, '07; Dailey, '06.

THE DEPARTMENT.

Dr. William D. Marsh.

THE JOURNAL presents, as its frontispiece, the portrait of Dr. William D. Marsh, Demonstrator of Operative Dentistry. Dr. Marsh graduated with the Class of 1896, and was appointed demonstrator the fall after graduation, which position he has held since. While in college he was secretary of his class, and is a vice-president of the Alumni Association.

Department Notes.

DR. SWING commenced his lectures on "Anesthesia" on March 2d. He will lecture every Thursday at five o'clock, and Dr. Darby will devote that hour to instruction in the clinic while Dr. Swing's course continues.

Mrs. Annie Stout recently returned to her duties in the clinic, after a rather severe illness at her home.

Dr. Kirk Honored.

ABOUT eight years ago the *Société d'Odontologie de Paris* determined to present a medal to the author of the best work on dentistry that should be published during the ensuing period of five years, without regard to the nationality of the author or other distinctions.

The medal was awarded, in 1903, to Edward C. Kirk, D.D.S., Sc.D., Professor of Clinical Dentistry and Dean of the Faculty of the Department of Dentistry of the University of Pennsylvania.

The following is a translation of a letter which preceded the recent arrival of the medal in America:

PARIS, January 25, 1905.

DEAR SIR AND HON. CONFRÈRE:

The *Société d'Odontologie de Paris* had awarded you, in 1903, a gold medal by reason of your remarkable scientific works.

I am sending you, therefore, by to-day's mail, my dear sir and *confrère*, the testimony of high esteem which the *Société d'Odontologie de Paris* is happy to present to you for your so very interesting dental and scientific communications, which do honor to the profession and to the author. Please accept the assurance of our best sentiments of confraternity.

DR. FRITEAU, *Secretary-General.*

University Day.

THE "University Day" of 1905 was a red-letter day in the history of the University of Pennsylvania, not only because the President of the United States delivered the annual oration, but because honorary degrees were conferred upon the rulers of two great nations, the official representative of a third, and, also, upon four eminent Americans, distinguished in science and art. The ovation which was given to each of the candidates by the large audience of professors, students, and prominent Philadelphians has seldom been equaled.

After the invocation by Bishop Whitaker, Dr. S. Weir Mitchell, the Public Orator, presented to the Provost of the University the candidates for honorary degrees, which were conferred as follows:

Robert Simpson Woodward, Sc.D.; David Thompson Watson, LL.D.; Philander Chase Knox, LL.D.; Charles Edgar Clark, LL.D.; Sir Henry Mortimer Durand, LL.D.; His Imperial Majesty, the Emperor of Germany and King of Prussia, LL.D.; and Theodore Roosevelt, LL.D.

Thomas Bailey Aldrich, who was to have received the degree of Doctor of Literature, was unable to come to Philadelphia, on account of illness.

After prolonged applause for the President, the students gave three Pennsylvania cheers for England, Germany, and America. Several times during the exercises the students evinced their devotion to the Provost and Vice-Provost and their loyalty to the University by hearty cheers.

Provost Harrison, after delivering a short address, introduced the audience to President Roosevelt, who delivered the annual "University Day" oration. His subject was "Some Maxims of Washington."

After the exercises, the Trustees of the University gave a luncheon to the recipients of honorary degrees and special guests, at the University Club.

At 12.30 P.M., President Roosevelt was escorted by the First City Troop to its Armory, at Twenty-third and Chestnut streets, where he responded briefly to a toast at a luncheon given by the Troop in his honor. He left for Washington, from West Philadelphia Station, at 3.20 P.M.

Obituary.

On Saturday, March 4th, Mr. Manuel Justo Quintero, of France, died at the University Hospital.

The late Mr. Quintero was a member of the Dental Department, having entered the Class of 1904. His first and second years were spent at Harvard.

Mr. Quintero went to the hospital on last September 14th, with a serious sickness. As time passed he showed slight signs of improvement, later relapses occurred, and complications set in which caused his death.

His mother had been in constant attendance for some time past and, with his brother James, was present when he peaceably passed away.

Mr. Quintero was the prime mover in the formation of the French Club in connection with the University; was a member of the Xi Psi Phi Fraternity, and took an active interest in athletics.

It is particularly sad that the Providential call should have come at this time, when he had almost successfully completed the course. He intended pursuing the study of medicine upon his return to France.

Word has just reached the Department of the death of John G. Clayton, '02, of Adelaide, Australia. Dr. Clayton died January 14th, and on his deathbed asked to have his collegemates informed, through the columns of the JOURNAL, of the end that he knew was rapidly approaching. He had worked up a nice practice when ill-health compelled him to give up his work.

He was a popular student while in the Department, and the many friends he made while here will learn of his death with sorrow.

A letter from his brother says: "He was a credit to your University, and had shown his proficiency on many occasions and in many operations. He was very popular here, and his skill had secured many friends."

Resolutions of Respect.

WHEREAS, God has seen fit to take from this life our friend and fellow-student, Manuel Justo Quintero; be it, therefore,

Resolved, That the death of our co-worker is to us a source of deep regret, and we extend to his parents and to his relatives our deepest sympathy.

We realize that by his death the University has lost a loyal son and a student of much promise, and the members of the Department with which he was associated a man of kindly heart, unblemished character, and lofty ideals.

Remembering our own loss, we are the more deeply conscious of the sorrow of those with whom he was so closely linked by ties of kindred, and we venture, humbly, to commend them to Him, who in infinite wisdom and love has called our late fellow-student to himself.

Resolved, That a copy of these resolutions be sent to his parents; that they be spread upon our minutes and published in the next issue of the PENN DENTAL JOURNAL, and the *Pennsylvanian*.

J. F. MCEWEN, '05,
W. D. STEVENSON, '06,
H. P. MCPHERSON, '07,
Committee.

Alumni Notes.

Dr. Arthur Barton Crane, '99 D, was married on February 28, 1905, to Miss Mary Wallace Pollard, at the Methodist Episcopal Church South, at Alexandria, Virginia.

Dr. Jehu Thomas Gore, '02 D, demonstrator in the operative clinic, was married to Miss Lotta Edna Long, on February 8, 1905.

Dr. Emerson G. Curry, '04 D, who had an extensive practice at Plainfield, N. J., recently sold out to Dr. Clive W. Montfort, '02 D. Dr. Curry sailed from San Francisco, on March 4th, for Hong Kong, China, where he will be associated with Dr. Jos. H. Noble, '83 D.

Dr. D. S. Gardner, '02 D, of Scranton, Pa., recently visited the Department.

Dr. R. D. Sayre, '97 D, of Gloversville, N. Y., recently visited the Department.

Dr. T. P. Dilworth, '03 D, is now located at 536 N. Sixty-third street, Philadelphia.

Dr. G. S. Weiler, '03 D, recently opened at 1533 Chestnut street, Philadelphia.

Dr. Irving W. Brown, '04 D, is associated in dental practice at 61 West Seventy-first street, New York City, with Dr. J. Bond Littig.

Dr. Frank Morton Long, '79 D, died in this city on December 20, 1904.

Dr. Jos. H. Noble, '83 D, of Hong Kong, China, recently visited the University. Associated with him in practice at Hong Kong are Drs. John M. Crago and Leidy R. Reel, both of the Class of 1900, and natives of Scranton, Pa.

Dr. L. W. Skidmore, '84 D, of Moline, Illinois, has been elected President of the Rock Island County Dental Society, which is a component part of the Illinois State Dental Society.

Dr. E. Schiffman, '91 D, of Paris, France, recently visited the University.

Dr. R. W. Waddell, '98 D, was married, October 12, 1904, to Miss Sarah Alice Phelps, of North Kingville, Ohio. Dr. Waddell has been, for three years, dental surgeon, U. S. A., and served in the Philippines until his recent transference to Fort Leavenworth, Kansas.

Dr. H. L. Hillegas, '99 D, formerly of Wilmington, Del., has now located at Casella 241, Santiago, Chile.

Dr. Raphael Laberdesque, '99 D, formerly of Paris, is practicing in Paramaribo, Dutch Quiana, South America. Dr. Laberdesque and Thomas P. Stevenson, Jr., '01 C, occupy the same dwelling at Paramaribo. Mr. Stevenson, in association with Mr. John Headman, both men formerly of Philadelphia, has done extensive engineering and contracting work for the Dutch Government.

Dr. W. A. Morrison, '03 D, is associated with M. Martinier, 10 Rue de Richelieu, Paris, France, and has been lately appointed demonstrator at the École Dentaire. Dr. L. S. Marks, '04 D, is also in Paris, associated with M. Masson.

During a recent visit to New York of William L. Croll, D.D.S., of the Class of 1883, Dental Department of the University of Pennsylvania, plans were considered for the organization of a society of the Alumni of the University in Europe.

Dr. Croll, who is one of the most widely known dentists in England, and whose practice is in London, will take the initiative this month by inviting a conference of alumni in London.

A society will be first instituted in England, and as soon as practicable the organization will be extended to other countries, finally including, if possible, all Europe.

The Groupe Francais du Département Dentaire of the University of Pennsylvania was organized in Paris, France, in November, 1904, through the efforts of Z. Eudlitz, D.D.S., and will constitute an active factor in the general organization when it shall take place.

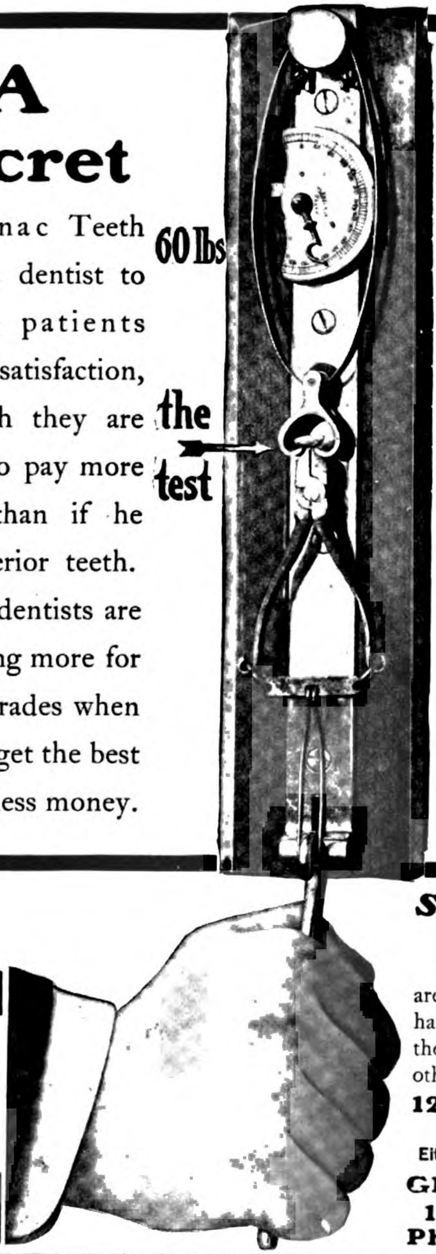
It speaks well for the Dental Department that its graduates, both at home and abroad, take such an active interest in the welfare of their University.

MORE POUNDS

A Secret

Platinac Teeth enable a dentist to give his patients better satisfaction, for which they are willing to pay more money than if he used inferior teeth.

Some dentists are still paying more for inferior grades when they can get the best teeth for less money.



TEST No. 2.

The accompanying test in the illustration shows how strong Platinac Teeth are. An average pull of 60 pounds will not crack the porcelain, nor even loosen the platinac pin. Many will stand more pounds. This is because the solid platinac pin is backed in the porcelain and not soldered, and because the porcelain is of the best.

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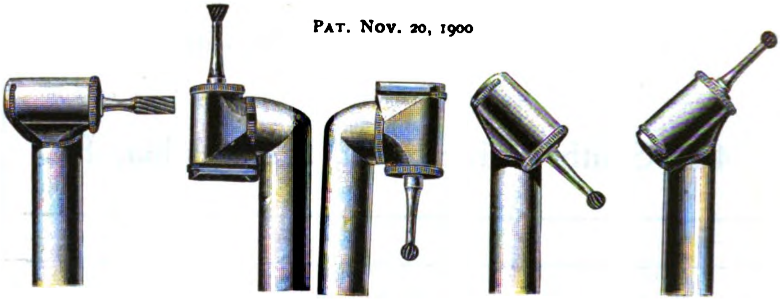


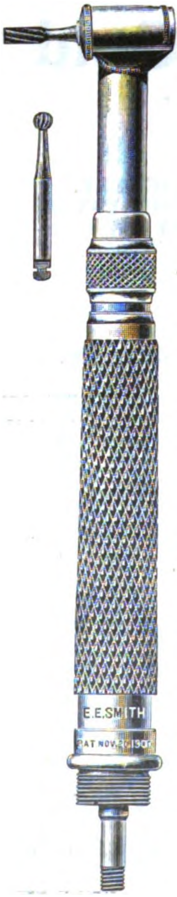


Fig. 1.—For Slip Joint Connection.

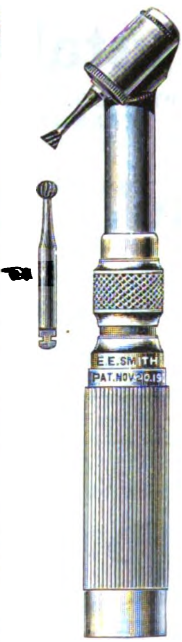
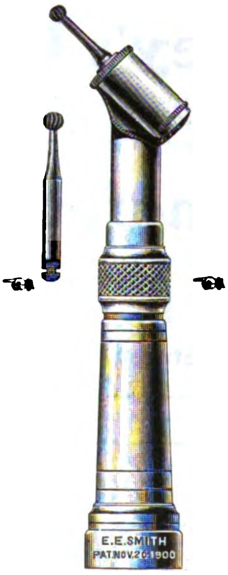


Fig. 2.—For Universal or Cone Journal Hand-piece.



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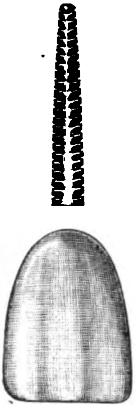

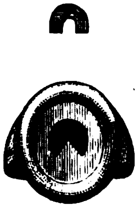

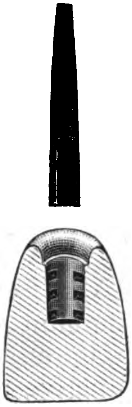

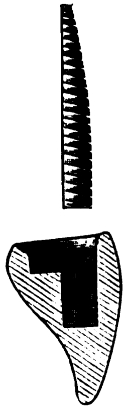

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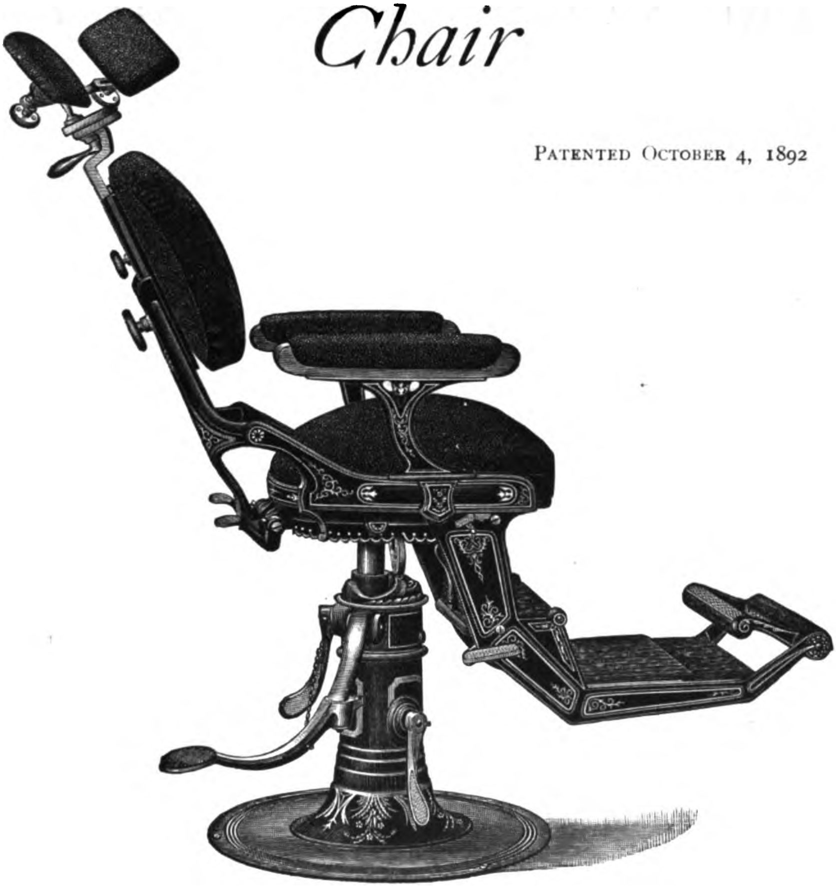

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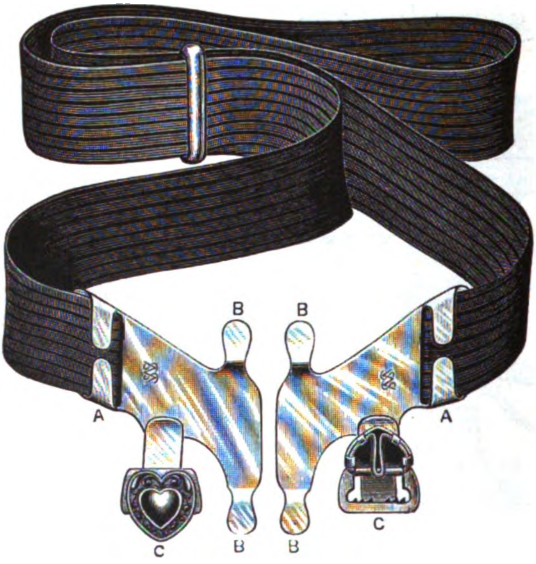

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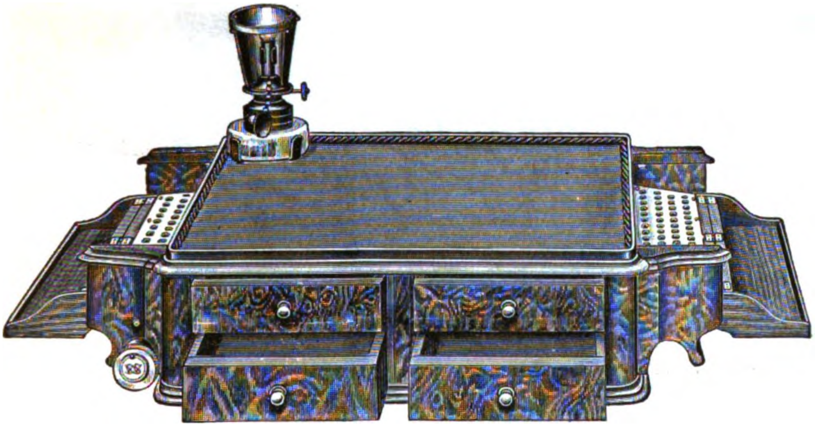

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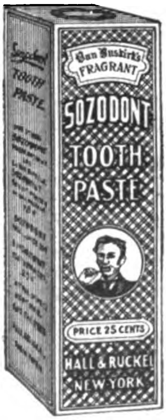

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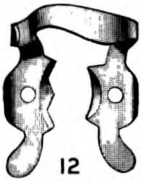

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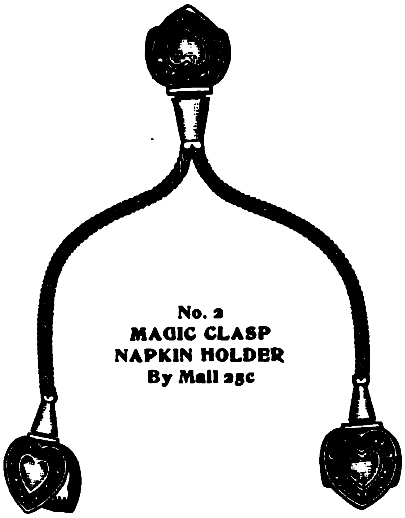

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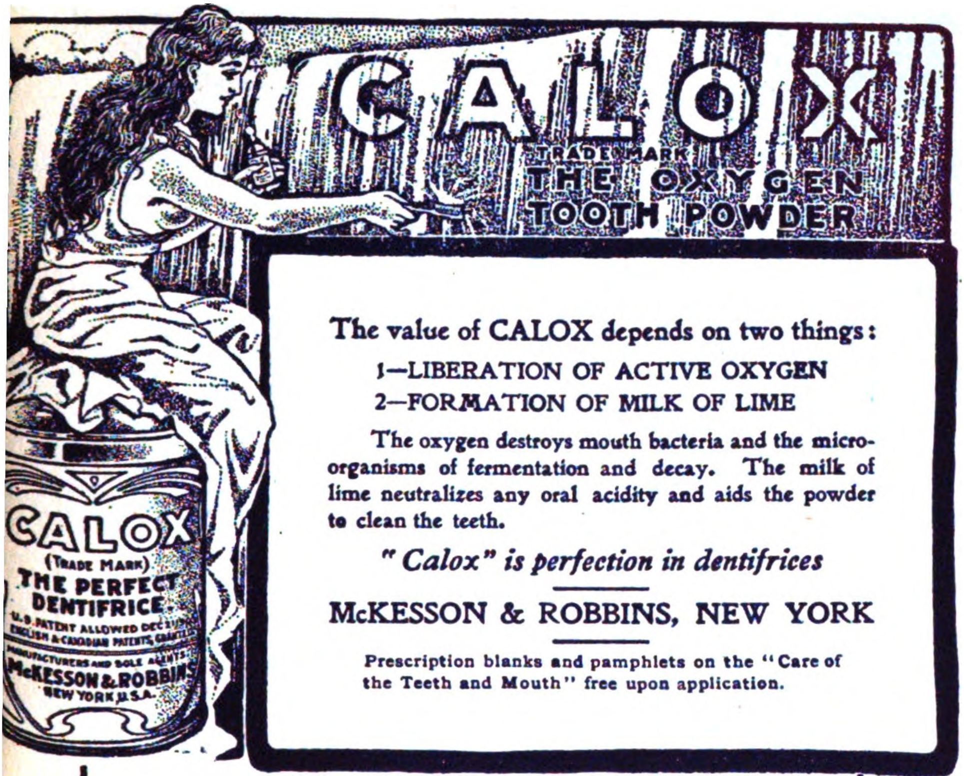

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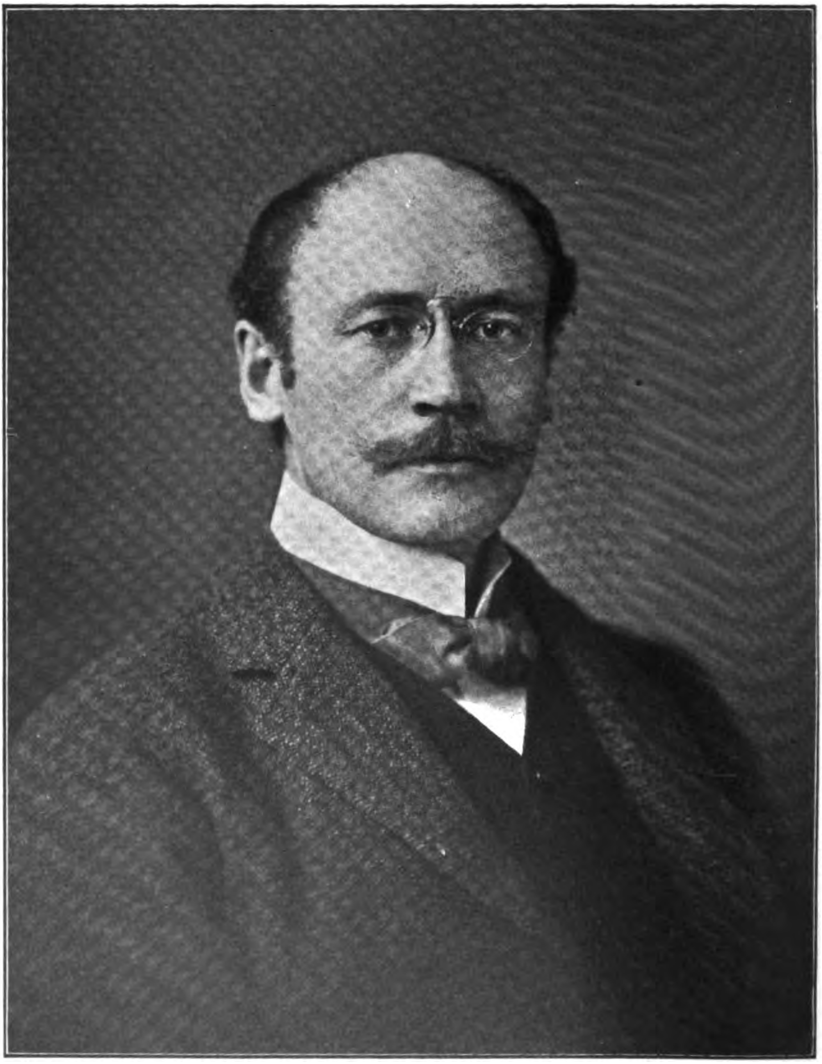

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Nitrous Oxid.

BY M. I. SCHAMBERG, D.D.S., M.D., 1896.

THE evolutionary changes which have marked the progress of nitrous oxid as an anesthetic are indeed interesting and tend to show the gradual steps which have brought this valuable agent to the degree of popularity which it now possesses. In 1776, a little over a century and a quarter ago, a colorless, odorless, sweetish tasting gas with the formula of N_2O was discovered by Priestley. Some twenty years later Sir Humphrey Davy directed attention to the fact that this gas when freely inspired exhibited a pain-obtunding influence. An interval of almost fifty years elapsed before nitrous oxid was introduced into surgery as an anesthetic by Dr. Horace Wells. The incidents attending the success of Wells' initial experiment and the unfortunate failure at his first public demonstration are so familiar to dental students and practitioners alike that no review of these occurrences need be made here. Suffice to say that though the first tooth to be painlessly removed under the influence of nitrous oxid was from the mouth of Horace Wells himself, in December of 1844, it was not until Colton had established an office in New York, in 1863, that nitrous oxid began to be generally used for the extraction of teeth and other minor surgical operations.

The difficulties attending the production and the administration of nitrous oxid in the early days coupled with the fact that the desired anesthetic effect necessitated voluntary submission to a condition of unconsciousness were evidently strong factors in retarding its general use. With the discovery of the anesthetic properties of ether and chloroform the more frequent employment of such agents followed, and an opportunity was afforded a comparison of the dangers attending their administration. It has been statistically shown that chloroform proves fatal in about one in every two thousand administrations, and that ether, though considerably less treacherous, has a mortality of about one in every twenty thousand. By contrast, such reports as the one made by Colton, to the effect that during the period between July 1863 and March 1881 he had conducted 121,700 administrations of nitrous oxid without a single accident, place nitrous oxid in a class alone as far as safety is concerned.

The briefness of the period of anesthesia, however, under nitrous oxid, and the necessity for the installation of a cumbersome outfit for the manufacture and storage of the gas, did much to stay the progress of its popularity with the medical profession. It found its main advocates among dental specialists, who employed it in the extraction of teeth. Medical men were prone to view it as an anesthetic which was dependent upon an asphyxial state, and their belief was founded upon the fact that considerable cyanosis usually accompanied its employment. This phenomenon, however, was more frequently noticed when the original method was in vogue, of breathing back and forth from a bag containing the gas. The introduction of valves by Dr. Evans, of Paris, to overcome the necessity of rebreathing the gas laden with carbon dioxid and other impurities from the lungs, created a decided improvement in the mode of its administration. He gave his first public demonstration of the value of valves to control the inhalation and exhalation of gas at the Dental Hospital of London, in 1868.

Shortly thereafter the manufacture of liquefied nitrous oxid was accomplished and a broader field was opened to the use of this anesthetic. Less bulky apparatus was required and it became possible to supply gas in portable cylinders or containers. It was also found that gas thus prepared underwent no deterioration as long as retained within the cylinder and that nitrous oxid became "stale" only when allowed to stand for some time over water in a gasometer. The next important advance was the addition of oxygen to nitrous oxid to overcome asphyxia and to prolong the anesthesia. Credit must here be given to Paul Bert, who, in 1878, after experimenting with nitrous oxid under increased barometric pressure in an air-tight chamber, conceived the idea of combining oxygen with nitrous oxid.

Other investigators then attempted the employment of nitrous oxid and oxygen, with only a moderate degree of success. According to Hewitt, Dr. Hillischer, a Viennese dentist, was the first to successfully employ nitrous oxid and oxygen at ordinary atmospheric pressure in dental surgery. His first paper recording his results with this gaseous mixture was published in 1886. About this time, Hewitt instituted a series of experiments at the Dental Hospital of London for the purpose of arriving at the best means for administering the combined gases. In 1894 he completed an apparatus well suited to the application of nitrous oxid and oxygen for prolonged anesthesia, and in 1897 he published a book entitled "The Administration of Nitrous Oxid and Oxygen for Dental Operations," which work was freely consulted in the preparation of this brief historical outline.

Today nitrous oxid is recognized as a true anesthetic. Its *modus operandi* is supposedly the same as that of ether or chloroform, by direct action upon the cerebral centers. The unconsciousness and insensibility to pain is not dependent upon the asphyxia which is frequently noticed during nitrous oxid narcosis. This is evidenced in the fact that when oxygen is given in combination with nitrous oxid in proper proportions the elimination of all cyanosis is effected, and anesthesia may be extended for an indefinite period.

Unfortunately, the necessity for the almost continuous application of the hood to the face during the production of prolonged anesthesia makes this method of little value in dental surgery. In most operations about the mouth where the nitrous oxid hood must be removed so as to reach the operative field, only brief operations can be performed owing to the evanescence of the anesthesia, which is almost as marked under nitrous oxid and oxygen as under nitrous oxid alone. Several forms of apparatus have been devised for the passage of nitrous oxid through the nose during operations within the mouth, but inasmuch as they have been only moderately successful this method has not been generally adopted.

Most nitrous oxid specialists cling to the use of the mouth inhaler in giving nitrous oxid, admitting air to overcome the asphyxial symptoms. This affords a highly satisfactory method both for short dental operations and some minor operations of a general nature. While the briefness of the period of profound anesthesia under nitrous oxid is a deterrent influence against its more frequent employment in general surgery, there are many operations upon other parts of the body which require no more time for their performance than does the extraction of a tooth. In many such cases the danger incident to the operation itself cannot be compared to that attending the administration of the anesthetic when ether or chloroform is used.

Within recent years nitrous oxid has come into favor among general surgeons as a preliminary or adjunct anesthetic to ether, and this practice is doubtlessly leading to an appreciation of the advantages of nitrous oxid when used alone or in combination with oxygen in appropriate cases. Nitrous oxid as an antecedent to ether minimizes the amount of ether required, sends the patient rapidly into deep narcosis, and eliminates the exciting stage. The sum total of these advantages is that the danger of ether anesthesia is thereby materially lessened. It is a well-known fact that ether shock is to a considerable extent dependent upon the quantity of ether used. The reduction of the amount necessary to induce anesthesia, therefore, decreases the tendency to this sequel as well as to those which manifest themselves later as a result of pulmonary or renal irritation.

The past and present record of nitrous oxid for the extraction of teeth is such that this agent is not likely to be soon displaced by any of its newer arrivals. When it first became known that the chlorid of ethyl, which had been originally employed as a refrigerant local anesthetic, could be applied as a general anesthetic for short operations, many supposed that it would supplant nitrous oxid. It soon became evident that chlorid of ethyl so used was not without danger, and a compound preparation was placed upon the market bearing the name of "somnoform."

This mixture of 60 parts chlorid of ethyl, 35 parts of chlorid of methyl, and 5 parts of bromide of ethyl will undoubtedly render patients unconscious even more rapidly than nitrous oxid. It retains the patient under its influence for a longer period than nitrous oxid, but its use is much more frequently followed by nausea, vomiting, and pronounced depression. Thus far no definite estimate of the danger attending its use has been made. It will take many years for any of the chlorid of ethyl preparations to be placed upon the same footing with nitrous oxid. It is within the recollection of many of us when the bromide of ethyl was heralded as the ideal means of rendering patients insensible to pain during the extraction of teeth. It did not take long, however, for several sudden and unexpected deaths to cause this anesthetic to fall into disrepute.

In summarizing, there are several points that are worthy of emphasis:

1. There is no agent quite so popular for the production of insensibility to pain during the extraction of teeth as nitrous oxid.

2. Its reputation as the safest of all anesthetics is well founded, and is based upon its exceptional freedom from untoward effects during and following its administration.

3. The extremely low mortality rate considering the frequency with which this gas is administered to patients who have

undergone no preliminary physical examination or preparation is that which commends it so highly to both the professional and lay public.

4. Persons of all ages, even those with cardiac, pulmonary, and renal affections which would ordinarily contraindicate the employment of other general anesthetics, are being daily subjected to nitrous oxid narcosis with no apparent ill effects, and this in spite of the fact that many who administer nitrous oxid are not careful and competent operators.

5. It is a well-known fact that a large number of advertising dentists who extract teeth without cost to those patrons who come to them for artificial dentures employ nitrous oxid charged with chloroform. In some instances the term "vitalized air" or an equally non-suitable name is applied to the anesthetic mixture, but more frequently the patient is kept in ignorance of the fact that he is receiving an admixture which though it extends the period of anesthesia carries with it considerable more danger than does unadulterated nitrous oxid. This is a practice which should be condemned. A man who deceives his patients lays himself doubly liable to the law in the event of a mishap.

Some Practical Hints on Porcelain Inlays.

BY ED. EVAN-JONES.

(Demonstrator and Lecturer on Porcelain Work.)

WE have now arrived at that stage in the life of porcelain where it has become universally accepted by the dental profession as a filling material of a practical as well as an esthetic value. It is therefore not my intention to defend its use, but to give a few practical hints upon the general technique.

Cavity preparation seems to have been somewhat neglected or rather to have become a secondary consideration with the majority of practitioners who are using porcelain as a filling material. This is a mistake, because the preparation of the cavity will, in the great majority of cases, determine the success or failure of the inlay

We will take, for illustration, a few of the cavities met with in practice that demand porcelain as a filling material. The most prominent are those cavities on the labial surface of the anterior teeth, near the gingival margin, and somewhat following its outline. In shaping this cavity, after the soft dentin has been removed and the undermined enamel broken down, particular care must be taken to make it distinctive in character. What is meant by this is that it must neither be circular nor oval, but more in the shape of a crescent, so that the cervical margin of the inlay can be readily distinguished from the incisal margin. This is of great importance when we come to set the inlay into the cavity, because if the two margins are not distinguishable one from the other, the inlay can easily be set the wrong way and the fault not discovered until the excess cement has been wiped away. The walls are the next part of the cavity to be considered. They should be cut perfectly straight and slightly converging upon the base, which is flat. This will give a sharp, clean-cut margin, which is most desirable, and an even bulk of porcelain throughout the inlay, preventing, to a considerable degree, the change in shade which is caused by the opacity of the cement.

The cavity just described is usually taken by the novice in his first attempt at porcelain inlay work, because it is generally small and looks somewhat simple. In my judgment, it is probably the most difficult in the mouth to obtain a good adaptation and shade.

I will now describe three methods by which the matrix can be taken.

If the gum overlaps the gingival margin of the cavity, it should be removed, by painting with trichloracetic acid and paring off the eschar sufficient to allow the passage of a burnisher along the margin.

A piece of platinum, of 1/1000 or 1/2000 in thinness, should be cut large enough to overlap the adjoining tooth on either side of the one to be filled and a portion of the gum. After the platinum has been annealed in the furnace it is placed into position and held firmly by the first and second fingers of the left hand. Great care must be taken not to let the platinum shift after the burnishing has begun, because it will crease and false margins appear which will prevent a successful result.

In burnishing the matrix into the cavity an egg burnisher should be used first to define the margins and to work out as much of the base as possible before using the smaller ball burnishers. All matrices should be burnished from the margins toward the center of the base. Should there be any difficulty experienced in obtaining the cervical margin, owing to the close proximity of the gum, take a small piece of amadou in the pliers and work this along the margins. The gum will gradually recede under this treatment, giving a well-defined margin in the platinum matrix. A ball of moist cotton is next packed into the matrix overlapping the margins and firmly burnished down, packing the platinum well against the walls of the cavity.

The next method does not require so much platinum, but equal care must be exercised in holding it firmly in position while burnishing. A piece of platinum is cut as large as the labial surface of the tooth which is to be filled, turning one end in conforming with the gum margin. Place the platinum upon the surface of the tooth with the turned edge under the gingival margin of the gum, gently working it up until sufficient platinum overlaps the cervical margin of the cavity.

Hold the platinum at the incisal two-thirds of the teeth with the thumb and finger, and burnish toward the cervical margin, taking care that the trimmed edge does not draw down from under the gum. The rest of the burnishing and packing with cotton is the same as with the preceding matrix.

This last method which I will now describe is, in my opinion, more accurate than the preceding and certainly less laborious both to the operator and patient. An impression of the cavity is taken by softening a small piece of dental lac over an alcohol or Bunsen flame, the lac having been previously placed into one of the small impression cups suggested by Mr. E. B. Howsett, of England. The softened lac is then gently pressed into the cavity. In a few seconds the lac will be sufficiently hard to allow of easy withdrawal, without injury, from the most difficult cavity, providing, of course, there are no undercuts. No separating medium is required, the saliva giving enough moisture to the tooth and cavity to prevent the lac from adhering. The cups are so constructed that the impression of a cavity, together with part of a face of a tooth, can be taken with them, which will serve as a guide for building up the mineral body to the proper contour.

The lac impression is now inserted face upward into Melotte's moldine, which has been previously pressed into the lower half of the casting ring. The upper half of the ring is placed into position and the lac impression thinly smeared with some high-test mineral oil by means of a fine camel's-hair brush. This coat of oil facilitates the flushing of the Spence metal, with which the cast is made.

The Spence metal (sulfid of iron) is melted in a specially adapted ladle suggested by Mr. Carl Christensen, having a dome-shaped base, which serves to confine the flame and prevents it reaching the metal. In melting the metal care should be taken not to hold the ladle too near the flame, because if the metal burns sulphurous fumes are given off, which are objectionable. When melted it has a peculiar spongy appearance, and must not be poured in this condition, but removed from the flame and stirred with a stick until it settles down, becomes clear and free from bubbles. Its most liquid condition occurs a moment or two before it sets. This liquid condition must be looked for, and when it appears the metal must be quickly poured, not directly upon the lac impression, but down the side of the ring, while it is being smartly tapped upon the bench to settle the metal into place, sufficient being poured in to fill the upper half of the ring flush. The two halves of the ring can be separated in a few seconds and the lac impression readily removed, leaving a Spence metal mold as perfect in shape and with margins as sharp and well defined as the cavity in the tooth.

The platinum is now placed upon the mold and pressed to the base of the cavity with a piece of amadou or a large burnisher, care being taken not to crease the platinum upon the margins. The mold with the foil on it is then put into Ash's water-bag inlay swager and swaged home, the resulting matrix being a perfect reproduction of the cavity. One of the many advantages of this method of producing a matrix is, that should the platinum get bent or warp during the biscuiting of the porcelain, it can be replaced with the contents into the mold and re-swaged. In filling the remainder of the matrix the porcelain should not be brought higher than the margins, but be perfectly flat from side to side. The natural tendency of all porcelain during fusing is to form a sphere, therefore the little contour that is needed in these labial inlays will be brought about by this means. Remember that an overcontoured inlay is very unsightly and certainly much more dangerous to the life of the tooth than one not contoured.

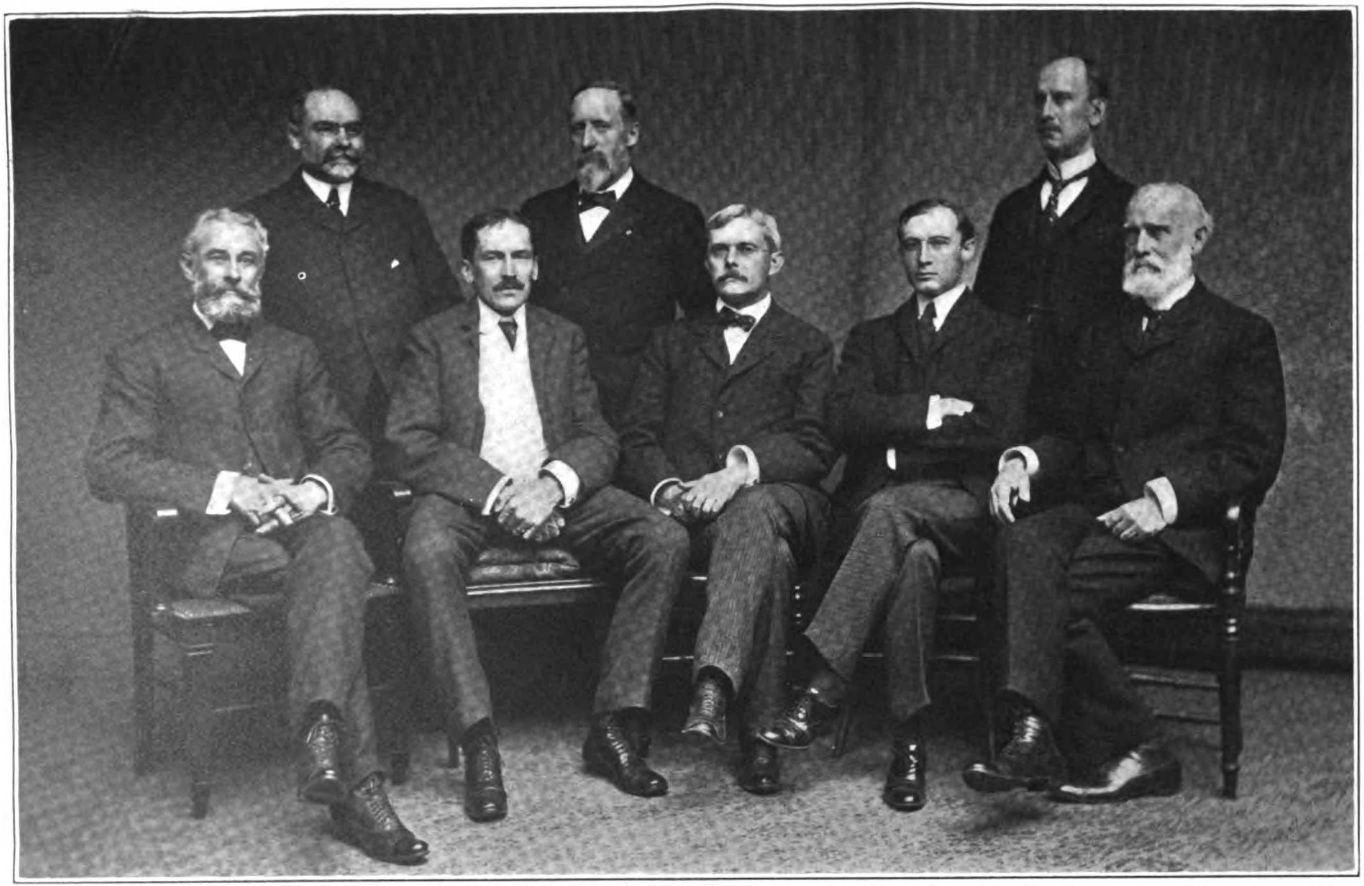
The Ash and low-fusing porcelains are decidedly more suitable materials to use in the kind of cavity described than the high-fusing porcelain. They are finer ground, more dense and opaque, and therefore do not change the shade so much by the action of the cement.

Adenoids: With a Glance at Their Bearing on Orthodontia.

BY C. J. BROTHERS, 1905.

[Read before the James Truman Dental Society and awarded honorable mention.]

THE naso-pharynx, as you know, is the seat of a large amount of lymphoid tissue of the same nature as the tonsil, and it may spread in all directions over the mucous membrane in broad, cushion-like masses or occasionally as pedunculated tumors; or, again, it may be collected into one mass, known as the pharyngeal or Luschka's tonsil.



This gland is a physiological structure, attention only being directed to it when large, so causing obstruction to nasal breathing. The structure usually atrophies in adult life. If the enlarged condition is not relieved while the process of development is going on, serious results may manifest themselves in the contour of the face. If there is an obstruction to nasal breathing, as there would be in the case of these adenoid growths, it can easily be seen that if they are allowed to remain until such time as the bony framework of the nose is fully formed, breathing through the nose will always be more or less impaired, and it is the fixity of the bones forming the nose that leaves the patient for all time a mouth-breather.

The effect of mouth-breathing manifests itself in a badly formed and irregular maxillary arch. This irregularity is caused by the relaxation of the facial muscles, and instead of the hard palate being dome-shaped it becomes constricted to a V-shape, with its anterior portion tilted forward. This will, of course, only occur in early life, when the bones are not set; the irregularity of the arch will cause irregularity of the teeth, and the consequent facial deformity will follow. Moreover, as the mouth is always more or less held open, the molars will find no resistance to their eruption for a time, and the consequence will be that when they do meet they will be practically the only teeth in the head to occlude, giving rise in the anterior region to an open bite.

Caries will be very prevalent. Dr. John Mackenzie says: "Deformity of the jaw, as a result of nasal or retro-nasal obstruction in children, always effects the upper, not the lower jaw, and varies according to its occurrence before or after the beginning of the second dentition. In the first instance, there is simply a general dwarfing of the whole jaw, a cupola-shaped high palate, and an elliptical alveolar process. After the second normal dentition the alveolar processes come nearer each other more and more, making the jaw longer and narrower; the dome of the palate becomes thereby much higher and narrower at the sides. The anterior end of the process loses its perpendicular position, is thrown forward, and forms an acute angle in the middle line; this throws the central incisors and later the other teeth into a position with which all are familiar. This latter deformity often causes a diminution in the vertical diameter of the nasal passages with bony deformity—most commonly of the septum."

Etiology.—The fact that adenoids may occur in several children of the same family seems to involve heredity only so far as lymphatic temperament is concerned.

In syphilitic and tubercular children there is always a tendency to glandular enlargement. Climate is important, the growths being more common in damp climates, especially in the case of lymphatic individuals. The disease is more common in children in the city than in the country or where they are exposed to irritating vapors. Its association with various forms of rhinitis is well marked. In a uric-acid diathesis, enlargement of the post-nasal gland structure may obtain or the tonsil may become enlarged as the result of an inflammatory process.

Pathology.—The gland is made up of trabeculæ of wavy connective tissue which holds nests of lymphatic cells; the surface is covered with mucous membrane in which the basement membrane is ill formed. The layer of epithelium is usually single and of the pavement variety. They are very vascular and bleed very easily.

Pathologically, according to Kyle, we have to deal with four different varieties:

(1) The soft variety, which is composed almost entirely of lymphoid structure and which is very friable. This enlargement seems to be due to an overdevelopment of the lymphoid structure.

(2) The edematous, due to venous stasis and edema, produced by leakage of the vessels.

(3) The hard variety, due to an overgrowth of connective tissue.

(4) Another hard variety following inflammatory lesions, in which there is inflammatory organization and slight contraction.

Symptoms.—The most marked is the peculiar expressionless face caused by the loss of the labio-nasal fold, the short upper lip with the somewhat long and everted lower, the broadening of the bridge of the nose, partly brought about by the swelling of the superficial structure due to interference with venous circulation, and partly by the presence of the growths in the posterior nares. The mouth is generally held half open to allow the child to breathe, exposing more or less of the upper incisors. The inability of the patient to concentrate its attention is due to a series of conditions rather than to any one condition. Deafness results from extension of the catarrhal condition of the mucous lining about the Eustachian orifice. The probability of it passing away will depend on the length of time the disease has been allowed to remain. Both taste and smell are sometimes impaired. Since post-nasal obstruction interferes with the free passage of air through the nose, a suitable nidus for the proliferation of bacteria will be established, as is also the case in the adenoid folds, predisposing to inflammation. It must also be remembered that continual mouth-breathing will produce irritation of the pharyngeal and laryngeal structures; therefore spasmodic croup, constant tendency to take cold, croup, and asthma will be the resultant complications. The cervical glands may also be sympathetically enlarged, and if they are they may become the seat of tubercular infection. There will, in all probability, be deformity in development generally, such as narrow chest and round shoulders, limiting the lung capacity, and so predisposing the child to lung trouble. One of the early symptoms is the marked alteration in the character and tone of the voice, giving to it a peculiar nasal twang. From the inability of the child to breathe through the nose there will be collapse of the alæ with atrophy of the nasal muscles, and the patient will suffer from dry mouth. The above symptoms will, of course, not be present in any one patient, but will vary with the gravity and intensity of the case. The shape of the naso-pharynx will have a great deal to do with the symptoms, as it may be so large as to contain the growths without much obstruction to nasal breathing.

Diagnosis.—One of the best points of diagnosis in early childhood will be the irregularity of the teeth, together with the facial expression, voice, and associated lesion of the ear, pharynx, and larynx. Tumors rarely occur as early in life as adenoid growths.

Rhinoscopy and digital examination will reveal the character and situation of the growths.

Prognosis.—If recognized early and promptly removed the prognosis is good; if, however, they are allowed to remain until the bony nose is fully formed the patient will in all probability remain a mouth-breather for life.

Treatment.—The disease demands early and prompt relief. Radical treatment is less dangerous than inactivity. The success depends on early recognition, and as the dentist is often the first to see the patient, it at once becomes his duty to advise the removal of the growths. Any attempt to regulate the teeth without removing the adenoids would be futile, as no sooner would the appliance be removed than the teeth would tend to return to their original malposition. The general condition of the patient should be looked into and any existing constitutional diathesis corrected. The soft variety will not demand the same surgical treatment as the hard. In very young patients, where the gland structure is very soft, all that is necessary is to insert the index finger and lacerate the growths; slight inflammatory action will take place and absorption follow. There is little bleeding and practically no pain. This operation will, of course, be done under as strictly antiseptic measures as possible. The harder variety requires operative interference. In children it is better to give a local rather than a general anesthetic, the selection being determined by the condition of the individual. When the patient is completely under, he should be placed on the table in such a position as to allow the head to drop over the edge. By inserting the mouth gag, drawing forward the tongue, and elevating the uvula, a part of the naso-pharynx will be exposed. A curette should be employed to scrape away the growths. If the field of operation cannot be exposed, the curette should be guided with the index finger, care being taking not to lacerate the structures surrounding the Eustachian orifice. The after-treatment consists in keeping the naso-pharynx washed out with a warm alkaline douche and in keeping the patient quiet. Should there be much hemorrhage, it should be controlled by pressure on the pharyngeal wall.

In conclusion, a few words should be said with regard to the general principles of regulating these cases. The distinguishing characteristics of these cases are distal occlusion of both lateral halves of the lower arch. According to Dr. Angle, there are two distinct lines of treatment—the first merely to improve the occlusion and the restoration of harmony in the sizes of the arches; the second is toward the ideal—the establishment of normal occlusion with harmony of the jaws and facial lines.

In the first case one bicuspid (preferably the first) from each lateral half of the upper arch must be sacrificed and the arch shortened by moving distally the incisors and canines until the space is closed.

As the second plan is to obtain the ideal, the retention of all the teeth is necessary. The length and prominence of the incisors is reduced by an arch which is fixed into two tubes on anchor bands, which are attached to the molars. The dental arch is widened by the spring of the wire and also by ligatures.

The Use of Local Anesthesia in Tooth Extraction.

BY H. W. ORR, 1905.

[Read before the James Truman Dental Society and awarded honorable mention.]

I HAVE chosen this topic to write on because the majority of us will use local anesthetics in practice, and I had an opportunity during a couple of years, where a great amount of extracting was called for, to realize the value of their use.

Local anesthesia by injection will first be treated from a general standpoint; next will come a short description of the most important drugs used, and lastly will be given the method of injecting to be adopted in order to obtain the best results.

Before going farther, I wish to state that, in extracting, local anesthesia should not supplant the use of nitrous oxid and other general anesthetics, but that it should be considered as a most efficient supplement to them. In a consideration of the benefits derived from the use of local anesthetics, much might be written on the efficiency of the method, its absolute safety, if properly administered, and its convenience in that it may be used without the presence of an assistant or third party. The simplicity of its use is an advantage in those cases where the patient has a dread of taking gas or any other general anesthetic, and these cases are not rare in practice. A certain class of patients will be met with in almost any practice who will seriously object to the fee necessary for the administration of a general anesthetic. Another distinct advantage arises in those cases where we have four or five badly decayed roots which require lancing and exploration and the extraction of which occupies much time. If in these cases gas is used, several administrations are often necessary, whereas by the injection of a local anesthetic we obtain time enough to operate carefully and obtain our result with a minimum of discomfort to the patient and injury to the tissues.

There are several objections raised by some against the use of injections for local anesthesia, the principal one being the liability of sloughing and necrosis resulting. Improper administration and disregard to asepsis give rise to this objection. If while injecting the fluid were forced beneath the periosteum, necrosis of the bone might result through interference with its nutrition, or infection by destructive bacteria might result through neglect of strict antiseptic precautions with regard to the field of operation or the instruments or solution used. The absence of harm following intra-spinal injection and the use of the various anesthetics on such delicate tissue as the eye contains show that local anesthesia of itself has no detrimental effect on nerve or other tissue. Professor Reclus, of Paris, who has probably employed cocain injections more in surgery than any other man, to quote Dr. Sauvez, "has never observed that cicatrization by first intention was any slower by this method, *i. e.*, the use of cocain, than in the case of general anesthesia."

The danger of toxic results is another objection urged. This is principally aimed at the use of cocain, and with this drug the danger of toxicity must be fully recognized, not only from the fact that it is normally toxic in sufficient dosage, but because through idiosyncrasy some people will exhibit toxic symptoms from a dose which on others would not produce the slightest unpleasant effects. However, cocain is only one of a number of drugs which may be used for local anesthesia, and this objection does not apply to several which are just as efficient when used properly, and are, in doses to suit our purpose, quite non-toxic.

Unsatisfactory anesthesia is stated also as an objection. It is true that occasionally with lower wisdom teeth, and sometimes where acute abscess exists, complete anesthetization is uncertain, but with any other case the most perfect results can be obtained by an operator who is careful and ordinarily skillful. Of course, as in most things, the requisites are proper methods and practice. A necessarily short description of several drugs and methods used to obtain local anesthesia will now be given.

As cocain was the first discovered, and is the most widely used one of them, it will be first considered. It is derived from the leaves of the *Erythroxylon Coca,* and was first used by Nieman in 1846. The hydrochlorate is the form in which it is most used, and this is a crystalline, white powder, soluble in water. Cocain is a vaso-constrictor, both locally and generally. This local constriction of the capillaries deprives the nerves of their nutrition and prevents them from transmitting impulses. Independently of this, cocain acts directly on the protoplasm of the cell, causing a profound temporary anesthesia.

The usual hypodermic dose of cocain hydrochlorid is one-eighth grain; but, as I have before stated, reliance cannot be placed on this dosage, as certain persons, after the administration of one-eighth of a grain, exhibit all the signs (pallor, distress, etc.) of cocain poisoning, and what is unfortunate for us, as dentists, is that these symptoms occur oftener during operations on the dense vascular tissue covering the alveoli than on other parts of the body, as the drug seems to more readily enter the circulation. The danger in cocain poisoning is from respiratory and cardiac paralysis, and it should never be used where organic heart disease exists. As cocain is such an uncertain agent, it is absolutely necessary when using it to have at hand the proper remedies in case poisoning occurs. The standard remedies consist of the inhalation of the vapor of a 3-minim capsule of nitrite of amyl, which may be broken in a handkerchief or napkin, or strychnin injections, and of such restoratives as whiskey, smelling salts, etc. If asphyxia occurs, artificial respiration should be used, and if these means fail, subcutaneous injection of from 15 to 40 minims of sulfuric ether should be tried. A safe measure to adopt when using cocain is the ante-administration of a cup of strong coffee, or half a drachm of aromatic spirit of ammonia in a wineglass of water. The cocain solution should always be freshly prepared, as it decomposes if kept any time, and, according to Professor Reclus, for tooth extraction 1 c.c. of a 1 per cent. solution should be used; never employ a stronger percentage than this. The same authority writes that when an injection exceeding 1 c.c. is used a horizontal position is called for.

There are different drugs, such as trinitrin, atropin, morphin, etc., used by many in their cocain solutions, with the idea that these drugs having an opposite physiological action will prevent the unpleasant effects of the cocain. This idea is successful for the ordinary case, but when a patient with the idiosyncrasy to the effect of cocain is treated it fails.

The use of three drops of the one in one-thousand solution of adrenalin chlorid in the cocain solution is to be highly recommended, as it increases the anesthesia by causing local capillary constriction, and also, through the constriction in the part injected, the cocain enters the circulation so slowly that the danger of bad results is considerably reduced.

Another method of using cocain is by Schleich's infiltration anesthesia. In this advantage is taken of the fact that cocain is safer in proportion to the lowness of the percentage used, and also that a very low percentage solution will cause satisfactory anesthesia if injected in sufficient quantity to thoroughly infiltrate the part. In tooth extraction by this method one-fifth grain of cocain hydrochlorate and one-sixth grain of sodium chlorid is dissolved in 100 minims of distilled water, and the seemingly large amount of 60 minims is injected around each tooth to be extracted.

There are many preparations, most of which contain cocain, advertised extensively and used for the production of local anesthesia by many dentists. I have frequently seen toxic results follow their use, and cannot approve of them for another reason, and that is that we have no definite knowledge of the amount of cocain or the drugs antagonistic to it that they contain.

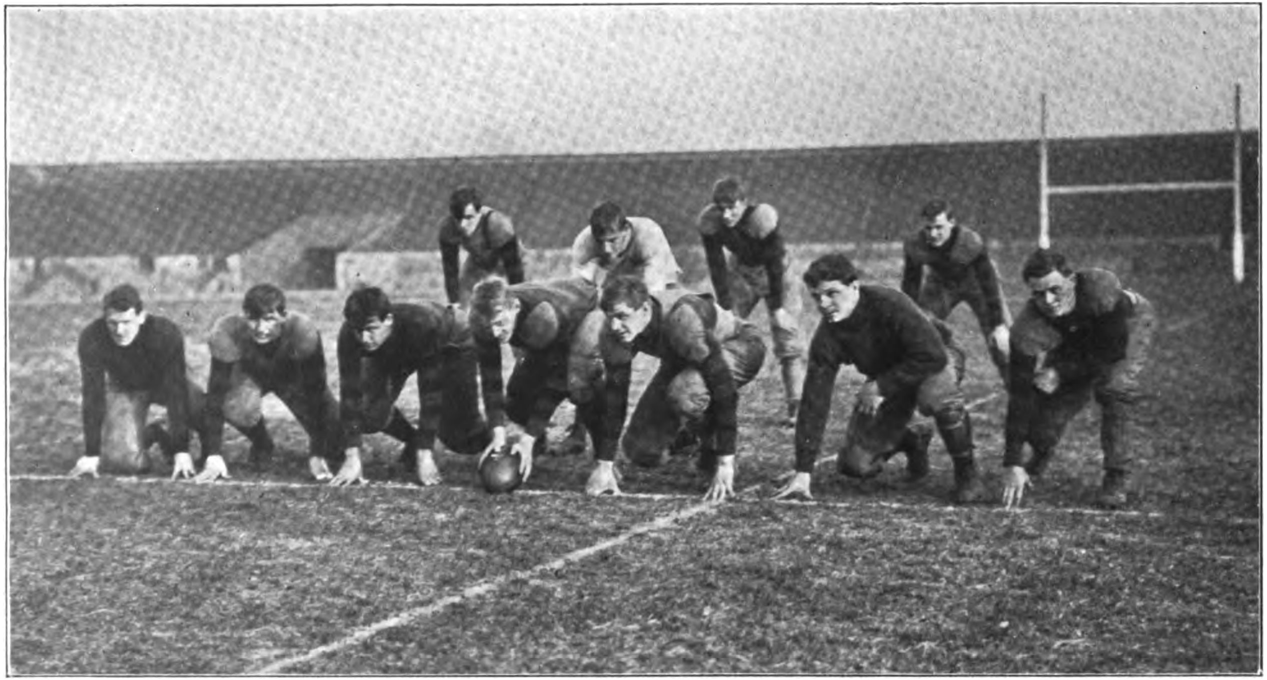
The next local anesthetic to be considered is beta-eucain. This name is used to distinguish it from alpha-eucain, an older preparation, which has not all the advantages of the former and has largely gone out of use.

Beta-eucain, or eucain beta, is a white, crystalline powder, soluble in cold water to the extent of about 3½ per cent.; stronger solutions can be made by the aid of heat. A normal saline solution should be used in its preparation, and it should be injected at about blood temperature. The advantages of eucain over cocain are as follows: Eucain solutions are stable and can be sterilized by boiling, while cocain solution must be freshly mixed and cannot be brought to the boiling point without decomposing the drug. The most important advantage is that while it is, if used properly, as efficient an anesthetic as cocain, it is, in any dose which we as dentists would use it, quite non-toxic, experiments having shown that it may be administered with impunity to adults in doses up to 6 grains.

Another advantage is that with eucain we can always operate in an upright position, and can safely allow our patients to walk immediately after the operation, which is not the case with cocain. Eucain is absorbed more slowly than cocain, and weight for weight is not as strong an anesthetic, so that three-fourths of a grain of eucain is required in the gum to equal the effect of three-tenths of a grain of cocain.

In tooth extraction a 3 per cent. solution gives the best results, and it should be injected slowly. For single-rooted teeth 20 minims should be used; for other teeth about 30 minims. If a number of teeth are to be extracted use a 2 per cent. solution, and it is perfectly safe to inject up to 2 grains of the drug at one time. The time to operate is about four minutes after the injection. Adrenalin chlorid may be used with eucain in the same way as with cocain, and with the most satisfactory results. If toxicity were to arise with eucain the treatment would be the same as with cocain; the probability of this occurring, however, is very remote. Some interesting statistics have been compiled by Professor Bobron, of Moscow, regarding the occurrence of general disturbances, varying from fainting spells to severe intoxication under injection anesthesia. Employing a 2 per cent. cocain solution and injecting 15 minims, it occurred 103 times in 220 cases, or 46 per cent. With 15 minims of a 5 per cent. eucain solution it occurred eight times in 320 cases, or 2.5 per cent. These statistics refer to eucain alpha, which is more liable to produce toxicity than eucain beta. When not using any anesthesia at all slight dizziness and fainting occurred in fifteen cases out of 205 extractions—about 7 per cent. Thus the percentage of disturbance with eucain was far lighter than when no anesthetic was used.

Nirvanin is another local anesthetic which is highly efficient, but is little known. It is a white, crystalline powder, very soluble in water, the aqueous solution being neutral, unirritating, and non-toxic. Its hypodermic use is unaccompanied by the unpleasant symptoms so often produced by cocain. Its solutions only produce anesthesia on abraded surfaces or hypodermically; when produced



THE FOOTBALL TEAM OF 1904.

it is as profound and more lasting than cocain. Its great advantage is that it is fifteen time less poisonous than cocain, 8 grains being the hypodermic adult dose. Nirvanin should be used in normal saline solution in 5 per cent. strength, should be injected slowly, and the extracting should not be done until about eight minutes after the fluid is injected. The non-recognition of this last precaution leads some who have tried it to have but a poor opinion of the anesthetic value of this drug.

Chloretone is another cocain substitute with which we can obtain excellent results without any fear of unpleasant consequences. It is a crystalline substance and has a strong odor of camphor, is sparingly soluble in water and freely in alcohol. Dr. Driskill's method of obtaining the most satisfactory results is as follows: Use distilled water 8 parts, absolute alcohol 1 part, and chloretone crystals q. s. to make a saturated solution. This is to be injected, and after two minutes the injection is to be repeated and continued again after two or three minutes, and in fifteen minutes after the first injection the extraction should be done.

Local anesthesia by refrigeration is a method that is of the greatest value for use with the temporary teeth of children, with the very old, and in any case of acute abscess or swelling on any of the anterior teeth. This method is best used by the application of a spray, in a fine state of subdivision, of rhigolene or ethyl chlorid to the gum on either side of the tooth to be extracted; this causes, by its rapid evaporation, freezing of the part and consequent anesthesia. The ethyl chlorid is best obtained in tubes having a very fine nozzle at one end, protected by a cap. The spray is forced out by grasping the tube with the hand, removing the cap, and then holding the tube nozzle end downward. The boiling point of ethyl chlorid is 50° F., so the heat of the hand causes great pressure of vapor at the upper closed end of the tube, which forces the fluid out through the nozzle. As the vapor is inflammable, it should not be used near any flame. The procedure in using is as follows: A napkin is placed so as to protect the surrounding parts, but leaving exposed the tooth to be extracted and its gum on both sides. The gum is thoroughly dried, the patient requested to breathe through the nose—for if this is not done temporary general anesthesia is liable to result—and the spray is then, by holding the tube about a foot from the mouth, allowed to fall in a finely divided state on one side of the gum over the root until it becomes blanched. The other side is then sprayed until white and then the first side is again brought to whiteness. The spraying is then discontinued, and in a minute's time from when the whiteness appeared on both sides of the gum the extraction should take place. Several roots of course, if near together, can be extracted in one operation. Special notice should be taken of the following two warnings: First, after the gum has become properly frozen or whitened, do not maintain it in that condition, thinking to thereby increase the anesthesia, as a result akin to chilblain would probably result later. Second, do not allow the spray to fall on an exposed or nearly exposed pulp; the pain that this application causes is simply unbearable.

A case will occasionally be met with in practice where a child is to have a loose temporary tooth extracted and the parent will request the use of some anesthetic. In these cases dry the gum over the root, and with a little cotton wool in a pair of pliers rub the dried gum with a *saturated solution of menthol in spirits of wine* about three times, at intervals of a minute; the extraction will then give no pain. There are several other drugs and methods for the production of local anesthesia, but I have only cared to describe those I have used.

The apparatus and directions for injection will now be given.

To quote Dr. Sauvez, "the anesthesia is entirely dependent on the manner of operating the injection;" therefore to achieve good results we must not only understand the drugs, but we must also adopt the right method of using them. When an injection has been made for the extraction of a tooth with an exposed pulp, if the pulp be pricked just before extraction, the patient is acutely conscious of the touch, while the extraction immediately afterward may be totally devoid of pain. Therefore the pain during extraction is caused by the tearing of the alveolo-dental ligament and the force exerted on the adjacent gum tissue and alveolar walls, and it is these structures which we must thoroughly anesthetize to obtain our end.

The first requirement is a good hypodermic syringe which will hold about 40 minims, and in which the leather packing can easily be taken out, cleaned, replaced, and tightened.

All-metal syringes are more easily sterilized, but are very awkward in use in consequence of the piston being too easily moved. The needle which gives the least pain in insertion is fine, with a short, sharp point, and after use a strong antiseptic should be forced through and the needle then placed in a wide-mouthed bottle of alcohol until next used. After using the syringe it should be rinsed out with a strong antiseptic and a few drops of glycerin drawn into the barrel and left there; this keeps the leather plunger soft. Before using, the glycerin should be forced out and the barrel drawn full of alcohol a couple of times; the anesthetic solution should then be drawn in, the syringe everted, and the air forced out. The patient should rinse the mouth just before the operation with an efficient antiseptic, and the surface of the gum around the tooth wiped with alcohol, and the point where the needle is to be first inserted touched with carbolic acid to minimize the pain of the first puncture. The syringe should be held parallel with the long axis of the tooth and the needle inserted only about one-eighth inch in the mesio-lingual gum festoon of the tooth to be operated on. In the case of any but the incisors, as six punctures are to be made one-sixth of the fluid is then slowly forced into the tissue, which will be noticed to whiten. The next insertion should be made in the gum at the gingival border midway between the lingual festoons and another sixth forced out. As the first injection will have anesthetized this point, the puncture will cause no pain. Another insertion and injection of one-sixth at the disto-lingual festoon is next made. The same procedure is then gone through on the buccal side. If during the injection the soft tissue near the apex of the tooth is noticed to puff, pressure should be made with the finger over the puffed surface, to distribute the fluid.

The fault to which insufficient anesthesia may usually be ascribed is in using only one injection on either side, and in injecting the fluid about half-way between the gingival margin and the apex of the tooth to be extracted. When this is done the fluid naturally goes where there is the least resistance, and that is to the soft tissue of the cheek above the alveolus, where its effect is not required. By injecting as near the gingival border of the gum as possible, the anesthetic penetrates to the peridental membrane, both at the neck of the tooth and through the thin alveolar wall over the root, and it also infiltrates the surrounding gum tissue and a certain amount reaches the soft tissues, thereby causing anesthetization over the desired area. The incisors, having denser gum tissue and thinner alveolar walls, require but two injections on either side.

In conclusion I wish to emphasize the necessity for strict cleanliness in connection with the administration of the injection. The oral cavity cannot be rendered sterile, but we can see that the points at which we insert the needle are surgically clean, and then if the syringes, needle, and solution are sterile, we will know that bacterial infection is no more likely to follow the extraction than if nitrous oxid or any other general anesthetic were employed.

Culture as an Adjunct.

BY LESLIE M. CRAVER, 1905.

[Read before the Edwin T. Darby Dental Society.]

CULTURE is certainly not a forbidden fruit in the dental Eden; hence I feel no fear of being expelled from the garden by handling the fruits of this tree. Men of culture, of broad and liberal training, are found in the forefront of the dental profession. Able writers and eloquent speakers have, from time to time, discussed the need of liberal training for those who enter upon the study and practice of dentistry. Faculties and dental associations have endeavored to raise the standards of entrance and the quality of work done in the dental schools. State boards have striven to obtain at least a certain minimum of attainment on the part of those who enter upon the actual work of the profession.

These all are signs that the trend is upward, that there is a longing for and a search after the higher standards of culture in the field in which we labor. However, the unsuccessful effort to lengthen the course of the dental schools from three years to four is still green in our memory. Is this failure a sign that the rank and file of the profession have reached the desired maximum of development? Has careful thought shown that the movement was not born of necessity, and that an extra year spent in the dental school is a waste of time for the average student? Whatever else that failure may indicate, it does not, we believe, point to such conclusions, and even if it did, it does not alter the view of culture which we shall advance, for, even in a full-grown forest, there are always trees that tower above their fellows, and these giants always have roots that pierce the earth far beyond the depths and breadths of their companions. There is still room for the giants, and the giants must have the root strength.

The purpose and lines of this paper are made clear by our definition of culture, which we borrow from Matthew Arnold: "What distinguishes culture is that it is possessed by the scientific passion as well as by the passion of doing good." Examining this definition we shall at once see that "culture" is precisely the term which we wish to apply to the needs of our profession. Apply to dentistry the essentials of this definition—"the scientific passion" and "the passion of doing good"—and you have an ideal profession. Picture to yourself a skillful practitioner imbued with these passions, and you have found your ideal dentist. We shall try to show how much these ideals should prevail in the profession and of what advantage they are. We shall try to understand whence these qualities come and how they may be developed, how much depends upon the individual and how much upon his opportunities.

Now, I assume that it is clear to everyone that the first term of our twofold definition sets forth precisely what our dental faculties are trying to instill into each student who enters a dental school. Without the "scientific passion" a dentist is as dead a member of his profession as an American soldier without patriotism. Even those who have taken a negative view of the needs of a more liberal training for the dentist have emphasized the value of the thoroughly trained and scientific instructor in the dental school. This is a need perhaps self-evident. It has been met in the best of our schools by the selection of the highest talent that can be procured. We perceive, then, that the dental school has, in general, advanced in the right line of development, so far as its instructors are concerned. However, be the chemical agent ever so powerful, it can act only within the limits of its affinities. Nor can the instructor radiate the "scientific spirit" into clods. The teacher must have students with something of the scientific spirit in them. This spirit is not a mushroom growth. It is a result of long training in special lines. It is the spirit of investigation—"the desire of knowing things as they are"—that must animate him who enters the field of scientific truth. It is not the province of this paper to determine how much training or what character of training is necessary to develop this essential quality.

Certain standards of entrance, which are by no means uniform, have been adopted by dental schools. These standards, as we have said, have done much to elevate the rank and file, but certain it is that the student who has met only the minimum requirement is not likely to prove an ornament to the profession, while even he who is satisfied with the maximum has not the promise of higher attainments.

Among the elements that have at present no place in the required lists of the dental schools is one which seems to me of very great importance, and I wish to mention it at this point; I refer to physical culture. As an aid to a profession in which a skillful hand counts for so much, there can be no question as to the value of this form of development. Says Dr. Edward Hartwell: "Given a pupil who has had the advantage of thorough and judicious physical training in childhood and youth, and the teacher is able to accomplish vastly more than he otherwise could." Since the dentist earns his livelihood by oft-repeated movements, wherein rapidity of action, combined with skill, plays a large part in the accomplishment of his work, it is readily seen that any training which increases his power to do work is a large asset in his favor. Physical culture, too, by increasing the facility with which the dentist performs his tasks, enables him to save a vast amount of nervous and mental energy which would otherwise be wasted.

The second phase of our subject upon which we now enter is one of peculiar interest, and offers a wide field for consideration. We shall touch it only in part.

"The passion for doing good" does not involve the consideration or requirement of talents or indeed of faculty or state legislation. It is purely a personal equation, and cannot be measured in mathematical terms. It denies that economic formula of greed whose cry has ever been heard on the street, "every man for himself." Whatever, then, increases the individual's power of doing good may rightly be considered under this head.

Culture is to such an extent a personal equation that, in weighing the success of this or that individual, we are often at a loss to understand his pre-eminence. In reading of the Jesuits some time since the following statement of their methods seemed quite applicable to our purpose: "To gain the influence of the higher classes from which they desired to draw their patronage, the Jesuits cultivated elegant manners." "Elegant manners" might have been the subject of this paper, but that term is not satisfactory, for "culture" and "elegant manners" are not synonymous terms. That they are allied will appear, but we must not confuse the cause with the effect.

Since the dentist must deal with the people who come to him, at least until he can determine who these visitors shall be, he must be a versatile man. He must needs have large powers of discrimination in dealing with the personal factors whom he meets. The very manner of the man may prove inviting or repellent.

The culture of the dentist will appear in varied forms and under different circumstances, while his lack of culture will appear in still stronger relief. The one will make and the other mar his power of doing good. Fine tastes are an indication of what a man really is. I visited recently an office where a scene of disorder told its own tale. An untidy office, with its dusty shelves and window ledges, indicated too little taste for the niceties, which mean much to the cultured. Combine these disadvantages, as they often are combined, with carelessness of personal appearance, and you have a fit subject for failure.

But we have thus far spoken rather of manners than of culture. It is not alone in the appearance of things that good taste makes its presence evident. Good taste is a moral quality, and will surely show itself in the kind of work your dentist produces. No professional workman ever performs good work simply because he is well paid for it any more than will the soldier fight well because he is paid for that. There must be a better motive than pay back of the hand that wields the chisel or brandishes the sword. The motives that will render a man a good workman are found in culture.

The scientific passion, aiming to see things as they are, will teach us what perfection is, and the passion of doing good will spur us on to the effort to have this perfection prevail. Thus will the ends of culture be attained.

The tastes of the community for good work must be cultivated by the profession. The real musician does not pander to the public taste and waste his art upon "rag time;" the real artist does not spend his years in painting soap and patent medicine advertisements; the true dentist does not put out work that he knows is inartistic, even to suit the perverted tastes of his patrons. The advertising dentist; the quack who does cheap work that cannot be other than shoddy; the "get-rich-quick" charlatan who does anything for pay—all these are discountenanced by the scientific passion as well as by the passion of doing good; a spirit that aims "to leave the profession better than it found it."

Since the dentist finds his broadest field in preserving and not in destroying the teeth, he becomes a medical adviser to each of his patients. Did anyone ever hear of a philosopher seeking a fool's advice? Did anyone ever hear of a lady taking dancing lessons of a polar bear? Did anyone ever consult a stone mason with regard to the production of a piece of statuary? As one who advises, the dentist must know his business better than the tradesman knows his. He must have tact and personal influence sufficient to make his patient, of whatever class of life, feel that he knows what is best, and could not advise otherwise if he would. For our profession let us then reverse the economic creed of which we spoke and take for our motto "to do the best for others is finally to do the best for one's self."

Lastly, a broad and liberal culture wins friends in every walk of life. Let us not forget that our practice must come from our friends, for our enemies will not be found in our parlors. The dentist of culture knows that his versatility is his highest asset. As Emerson says: "My gentleman gives the law where he is; he will outpray the saints in chapel, outgeneral veterans in the field, and outshine all courtesy in the hall; he is good company for pirates and good with academicians, so that it is useless to fortify yourself against him."

Have I then made it evident that culture is an element of highest importance in our field of effort? Because it is distinguished by the scientific passion and by the passion of doing good; because it means the development and ennobling of the individual, and the elevation of the general standards of work. It means the cultivation of the tastes of the community and the consequent increase of the demand for the best that the profession can offer. It means friends, and friends mean patrons, and patrons mean the ability to procure the good things of life.

Oral Surgery versus General Surgery.

BY ROBERT ZULAUF, 1905.

[Read before the Edwin T. Darby Dental Society.]

A CONCEPTION and differentiation of the two classes in surgery, viz, oral surgery and general surgery, need not be amiss to us who soon will seek the fields in which this subject has its application. A gross misapprehension of the divisions of this science may bring forth condemnation from the side being trespassed upon and criticism in general, the result being a detriment to our success.

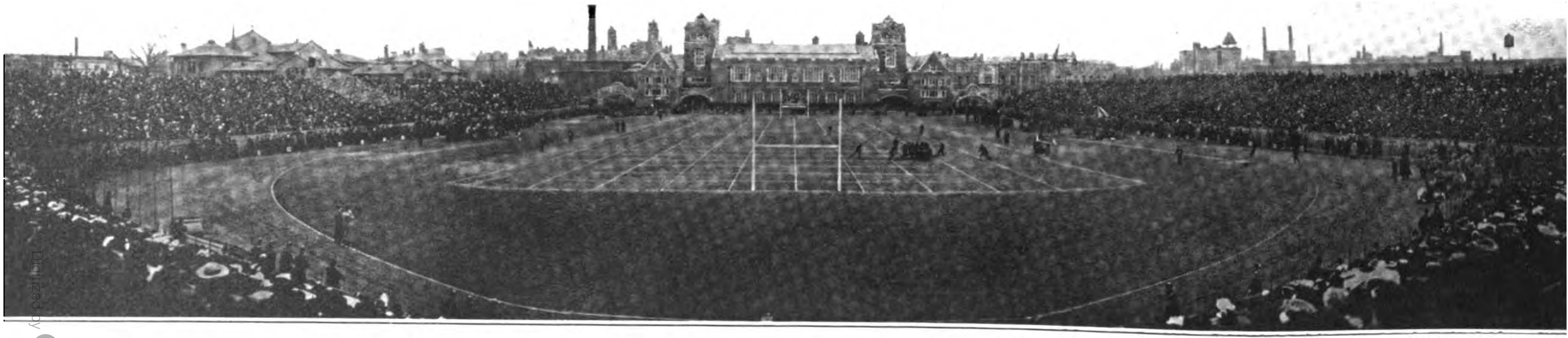
The term, general surgery, can be applied to the entire system; but, as it is recognized today, a distinction is given to a certain part of the head and the neck and classed as oral surgery.

The general surgeon must necessarily understand, and in minute detail, a vastly wider territory of anatomy than the oral surgeon; but, when the great vascularity in the region which the oral surgeon is called upon to operate is taken into consideration, it is at once apparent that the work of the oral surgeon in the majority of instances offers greater complexities than does that of the general surgeon.

The line of demarkation between the two is not definitely established at the present time, and occasionally controversies arise both in societies and between practitioners of both professions as to whether one or the other has not operated outside his just limit of territory.

That this important question should be decided is important, and to accomplish this end it is only a fair hypothesis that each should be assigned a definite scope of territory upon which to operate, which, of course, would be subject to certain modifications.

The oral surgeon can hardly hope to monopolize operations on the head and neck, and the question most likely to arise between the two classes of surgeons is, When should the oral surgeon operate



FRANKLIN FIELD.

on this complex area and when would the service of the general surgeon be indicated?

Let us consider, briefly, the etiology of a few of the diseases which occur in the immediate vicinity of the oral cavity, that we, as oral surgeons, may be better fitted to decide when it is our duty to operate and *vice versa.*

Consideration of Tumors.—The pre-eminent cause of tumors is the proliferation of embryonic cellular tissue, either from the epiblastic, mesoblastic, or hypoblastic layer, and the cause of the proliferation should be a determining factor in the conclusion of the selection of the respective surgeons. Cell proliferation is frequently the result of traumatism of the maxillary bones or surrounding tissues, and tumor operations from this cause would undoubtedly belong to the oral surgeon. Those of a congenital or post-natal character, not the result of traumatism of dental anatomical structures, should be allotted to general surgery, except in cases similar to odontoma and odontocele, which are closely related to the oral cavity.

Fractures.—These are usually the result of injury, and when they occur in the maxillary region they should be under the surveillance of an oral surgeon, inasmuch as he is better equipped to provide splints, etc.

Other Diseases.—Maxillary necrosis, suppurative diseases of the antrum, and adjacent sinuses having their outlet in the oral cavity; leucoplakia, facial neuralgia, facial paralysis, ankylosis, and many other diseases necessarily belong to oral surgery, owing to their close relationship to dental structures.

The object in bringing this crude comparison before your minds is to suggest a method of study whereby you will be able to easily determine when it is your duty to operate; and that of the paper as a whole is to suggest a means by which the question may be readily settled between the two professions.

A diplomatic relationship should be established by which the general surgeon should concede to the oral surgeon all operations upon the head and neck having a dental origin, and, in return, the general surgeon should be awarded the privilege of operating on all cases the causes of which are other than those previously mentioned.

This could be readily effected by the National Association of Dental Faculties and the corresponding association of the medical profession.

The Operation of the Extraction of Teeth.

BY W. A. CAPELL, 1905, L.D.S.VICTORIA.

[Read before the Edward C. Kirk Dental Society.]

THE operation of extraction is one requiring skill, judgment, experience, and an accurate anatomical knowledge of the parts involved. A careful examination of the tooth to be removed should be made, as this will give the operator some idea of the amount of sound tissue present and also of the force which will be necessary for the dislodgment of the tooth. In the case of roots, the edges must be defined, and for this purpose a blunt probe will be found very useful.

Method of holding instruments.—Forceps should be held in such manner that the handles rest comfortably in the palmar surface of the hand, and the thumb should be placed between the handles so as to act as a regulator to control the pressure of the blades upon the tooth.

In holding an *elevator,* the handle should rest comfortably in the hand, the first finger lying along the blade, being brought near the point so as to prevent slipping of the instrument.

Position of operator and patient.—The operator should place himself so as to be able to use his strength to the greatest advantage. His left arm may be utilized if necessary for steadying the movements of the patient's head, while the fingers of the left hand can be employed:

(1) To keep the cheek and other soft parts away so as to obtain a clear view of the tooth to be extracted and its immediate neighbors;
(2) To support the mandible;
(3) To grasp the alveolus, and so allow some idea to be gained of the amount of the force employed.

For the removal of the *maxillary* teeth, the patient should be so placed that the operator can encircle the head with his left arm if necessary. The chair should be tilted slightly backward, and the operator should stand on the right side and slightly in front of the patient.

For the removal of the *mandibular* teeth, the patient should be placed on a low level, the head being kept a little forward and the chin depressed. The position of the operator will depend upon the tooth to be removed and the instrument to be used. With teeth on the *right* side, where hawk's-bill pattern forceps are used, the operator should stand behind and to the right of the patient, the left arm being brought round the patient's head. The thumb of the left hand should be placed on the inside, and the first finger on the outer side of the alveolus of the tooth to be removed, and the three remaining fingers under the chin, supporting it.

When removing the *anterior* teeth, or those of the *left* side of the mouth, the operator should stand on the right side, and slightly in front of the patient. The left hand should be placed as follows: The second finger on the lingual side, and the first on the labial side of the alveolus of the tooth to be extracted, the thumb being placed under the chin.

The operator should be particularly careful when extracting lower teeth to guard against the sudden separation of the tooth from its attachments, which might result in damage to the upper teeth.

Points in the anatomy of the teeth and jaws which have a direct bearing upon the manner of carrying out the operation of extraction.—If the teeth be examined it will be noticed that they are capable of division into—

(a) Teeth with single round tapering roots;
(b) Teeth with single roots, more or less irregularly flattened or curved;
(c) Teeth with multiple roots.

Under *a* are included the maxillary incisors;

Under *b,* lower incisors, canines, and bicuspids, upper canines and bicuspids;

Under *c* upper and lower molars and frequently upper first bicuspids.

The shape of the roots has an important bearing upon the manner in which force is to be applied when severing them from their attachments. Thus, teeth with single round roots may be extracted by using a rotary movement, which would be impossible with a tooth having an irregularly flattened root.

To ensure skillful and successful operations, a thorough knowledge of the alveoli of the teeth is necessary. This can be gained only by careful study of the bones themselves. The points to be specially noticed in the *maxilla* are:

(a) The thinness of the outer alveolar wall as compared with the inner;
(b) The prominence of the bone in the region of the third molar.

In the *mandible,* the outer alveolar border will be seen to be thinner than the inner, with the exception of that portion in the region of the third and often of the second molar. The operator should bear this in mind when extracting a lower wisdom tooth.

Method of using forceps.—There are three stages in the operation—

(a) Adaptation of the forceps to the tooth;
(b) Destruction of its membranous connections with the socket and the dilatation of the socket;
(c) Removal of the tooth from the socket.

In the initial stage, *the first step* is the application of the blades. Great care must be taken to see that the points pass between the gum and the tooth, and also that they are applied parallel with the long axis of the root.

As a rule it is best to apply the blade first on the side of the tooth most obscured from view, and then to lightly close the other upon the opposite side. The blades should then be forcibly pressed upward or downward, as the case may be, in the direction of the apex of the root; a slight rotary or wriggling motion will often be found of assistance in the process.

It is a matter of great importance that this pressing movement be continued until a firm hold of the root has been obtained, as the successful removal of the tooth depends, in a large measure, upon the grip obtained. The handles should next be closed so as to give the blades a firm grip, and the amount of pressure applied should be such that, when movement has commenced, the blades do not ride upon the surfaces of the root. The amount of pressure must, of course, be regulated by the character of the tooth to be removed, and the resistance offered by the alveolar process.

Destruction of the membranous connections.—This is accomplished by applying force in either a rotary or a lateral direction. The movement to be employed depends upon the form of the root or roots to be removed, and the resisting strength of the surrounding hard structures. Rotary movement, as mentioned before, is only possible in the case of teeth possessing a single conical root.

Removal of tooth from its socket.—This is carried out by exerting extractive force in the direction of the least resistance; the latter is determined by a knowledge of the anatomy of the alveolar border, and by the sensation conveyed to the hand through the forceps.

Method of using elevator—(a) *Straight elevator.*—The blade with the flattened surface toward the tooth to be removed is inserted between the root and the alveolus, the instrument being kept as nearly as possible parallel with the anterior surface of the crown. The blade is then forced downward so as to reach the root at a point as low as possible; the handle of the elevator is then rotated away from the direction in which the tooth is to be removed. This has the effect of both raising the tooth in its socket and displacing it in the required direction. One such movement of the instrument rarely suffices for the removal of a tooth, a second, and sometimes a third grip, each time nearer to the apex of the root, having to be secured.

(b) *Curved elevator.*—This instrument is generally used in removing broken-down roots of lower molars, and is a most useful instrument if one root remains in place when the other comes away with the forceps. The curved elevator should be insinuated between the root and the alveolus so as to force the tooth into the empty socket, or the elevator may be placed in the empty socket, the point being forced through the septum of bone and the root thus elevated.

Character of the wound.—The wound resulting from the removal of the tooth is a lacerated one, and heals by "granulation." The socket, immediately after the operation, becomes filled with coagulated blood, which is eventually replaced by granulation tissue, followed at a later period by the formation of loose cancellous bone. A varying amount of absorption of the alveolar border always follows the removal of a tooth, the continuity in the surface of the gum being restored by ordinary cicatricial fibrous tissue.

Treatment of wound.—Keep the parts carefully cleansed as far as possible from all foreign matter, and for this purpose the mouth should be rinsed with some antiseptic several times a day. From the wound resulting from the extraction of a maxillary tooth the discharge drains away in a natural manner owing to the orifice being the most dependent part. From the wound caused by the removal of a lower tooth, such is not the case, and should suppuration take place, the socket must be frequently syringed with some antiseptic solution and if necessary packed with a suitable material.

Extraction of deciduous teeth.—In extracting these teeth it is advisable to have smaller forceps than for the permanent teeth, and great care should be taken not to go up or down too far, for fear of bringing away an unerupted permanent tooth. When it is necessary to extract a child's tooth, the child must be told, as it is an unwise proceeding to deceive children in such matters or to take them unawares. The confidence and consent of children can generally be gained by a little practice and moral suasion.

Extraction under general anesthetics.—I do not propose to make any allusion to the methods of administering general anesthetics, but to bring out a few points which the operator should bear in mind when employing anesthetics.

Whenever a general anesthetic is given for the removal of teeth, two people should always be present; one to confine his attention solely to the administration of the anesthetic, the other to the removal of the tooth, as it is impossible for one person to operate and at the same time observe the condition of the patient during the anesthetic period.

Before administering an anesthetic, any removable artificial teeth that may be in the mouth should be taken out. The operator should decide exactly what he intends to do; at the same time it is well not to attempt too much, and to avoid pricking the gum during the examination of any roots that it may be necessary to extract.

The prop should be placed on sound, firm teeth in such a position that the operator can work without being hindered by it, and a final view of the mouth should be taken.

Where several teeth have to be extracted at one sitting, their order of removal should be decided upon before the operation is begun, and if any particular tooth is causing pain, it should be extracted first. As a rule, lower teeth should be extracted before upper teeth, because if the latter are removed first the blood may pass down, and so obscure the lower ones. Roots should be removed before whole teeth, for the same reason.

Each tooth or root must be cleared from the mouth before any attempt is made to remove another.

With teeth which have a liability to slip from between the blades of the forceps, it is well, as a precaution, to keep the finger of the left hand behind the blades to prevent the tooth passing backward in the event of its slipping out.

Hemorrhage following tooth extraction.—This is a most important complication, and one which needs prompt treatment. Hemorrhage is generally divided into three stages: *primary, intermediate,* and *secondary.*

The treatment of primary hemorrhage, or that occurring at the time of the operation, is not of serious importance. The socket should be plugged with cotton-wool dipped in some styptic, such as tannic acid, and if it is at all sharp it is a useful plan to give the patient some tincture of hamamelis in the water used for rinsing the mouth.

Intermediate and secondary hemorrhage is more serious and generally sets in at night. When a case of intermediate hemorrhage is first seen, two important points should be ascertained before treatment:

(1) Whether the bleeding comes from the gums or the socket of the tooth;
(2) Whether the blood shows a tendency to coagulate.

When the bleeding comes from the gum, a pad of lint dipped in some styptic and applied with firm pressure is usually sufficient to stop it.

When the bleeding comes from the socket, proceed as follows: Small cone-shaped pieces of cotton are prepared, also a pad of lint, a bandage, a syringe, and a pair of converging forceps. Some cold water and the styptic are likewise placed ready for use.

(1) Remove all blood clots from the mouth and dry out socket with cotton-wool;
(2) Syringe socket with ice-cold water and dry;
(3) Dip a cone-shaped piece of wool (already prepared) in tannic acid or whatever styptic is used, and place in the socket, using considerable pressure, fresh pieces being introduced until the socket is full.
(4) A plug of lint is then placed over all, the opposing teeth closed on it, and the jaws bound together with a bandage.

Some *hemostatic* remedy should also be prescribed. If the blood rapidly coagulates after leaving the socket, the bleeding is probably due to some want of contractile power of the arteries. In these cases *ergot* should be used, as this drug causes contraction of the unstriped muscular fibers. Should the blood, however, show no signs of coagulating, prescribe gallic acid or perchloride of iron.

The general directions to be given to the patient, though apparently trivial, are most important. He should be advised to go home quietly, to avoid all forms of excitement, to assume a sitting position during the day, and to use a high pillow at night.

The patient should also be seen within twenty-four hours after treatment, and if the bleeding has ceased, the plugs may be removed and an antiseptic mouth-wash prescribed. This course is not recommended when the hemorrhage has been severe. Under such circumstances, the plugs should be allowed to work themselves out.

Pain following extraction.—The principal causes giving rise to pain following the extraction of a tooth are:

(a) *Incomplete extraction* of the tooth, especially if the piece remaining contains an exposed pulp.

(b) *Too rapid healing of the orifice of the socket.*—When this occurs, the discharges which naturally come away from the granulating surface at the base of the socket have no exit. The consequence is that they are retained and set up a local traumatic inflammation, leading to swelling of the surrounding tissue. In these cases the freshly healed surfaces must be separated, the socket syringed out, and a small piece of lint allowed to remain in the orifice for about twelve hours. An antiseptic mouth-wash should also be prescribed.

(c) *Suppuration in the tooth socket.*—This may be due in the first instance to the use of dirty forceps. An examination will reveal the presence of greenish putrid pus, while the tissue around will be much inflamed, and the portion immediately bordering the wound will have a tendency to slough. Suppuration in the socket may, however, be due to a lowered vitality of the tissue, produced by some local causes, as acute or chronic inflammation, and is especially well seen in cases of extraction for the relief of pericementitis, or where the operation has been performed on patients suffering from general debility, syphilis, or, in fact, any of those systemic diseases which tend to lower the vitality of the organism. In these cases syringe socket thoroughly with some antiseptic, such as carbolic acid 1 : 40. Following this, the parts should be carefully dried with cotton-wool. A small piece of zinc chlorid should then be introduced, and allowed to dissolve in the socket, which must be subsequently kept aseptic by constant irrigation with some antiseptic solution.

(d) *Extensive laceration of the hard and soft tissues.*—In these cases an anodyne mouth-wash may be tried.

(e) Many obscure cases probably arise from laceration or bruising of the nerve trunk or nerve endings. This is more likely to occur during extraction of the lower third molar than with any other tooth.

The Psychological and General Treatment of Patients.

BY E. F. MOLLE, 1905.

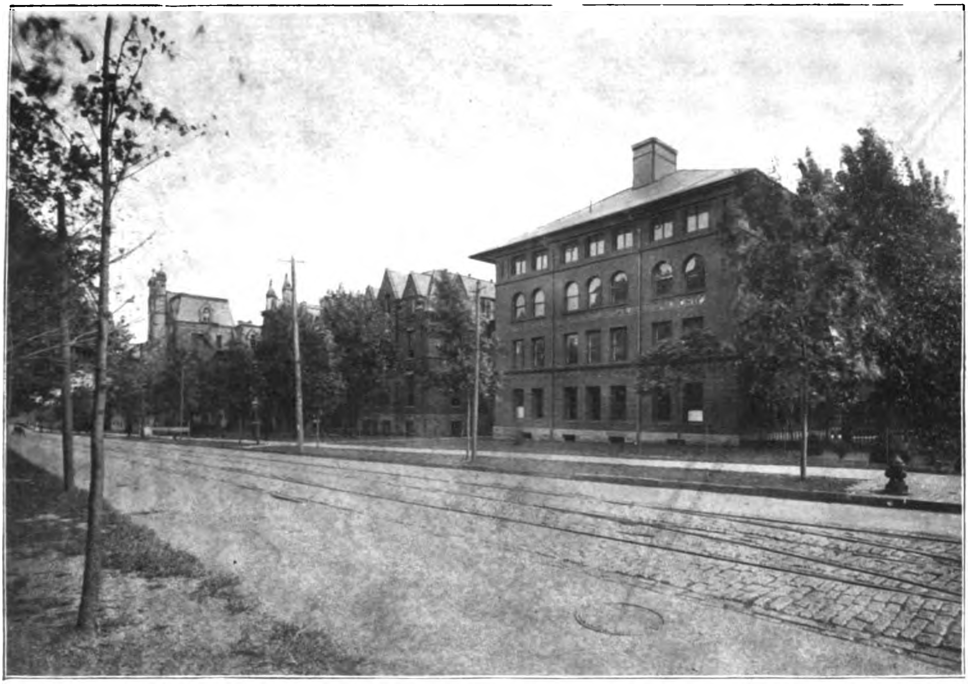
[Read before the Edward C. Kirk Dental Society.]

IN my endeavor to place into lines a few practical suggestions for the lessening of the burden of our patients, I find myself indebted to a few of our most able lecturers and successful practitioners for some of my ideas.

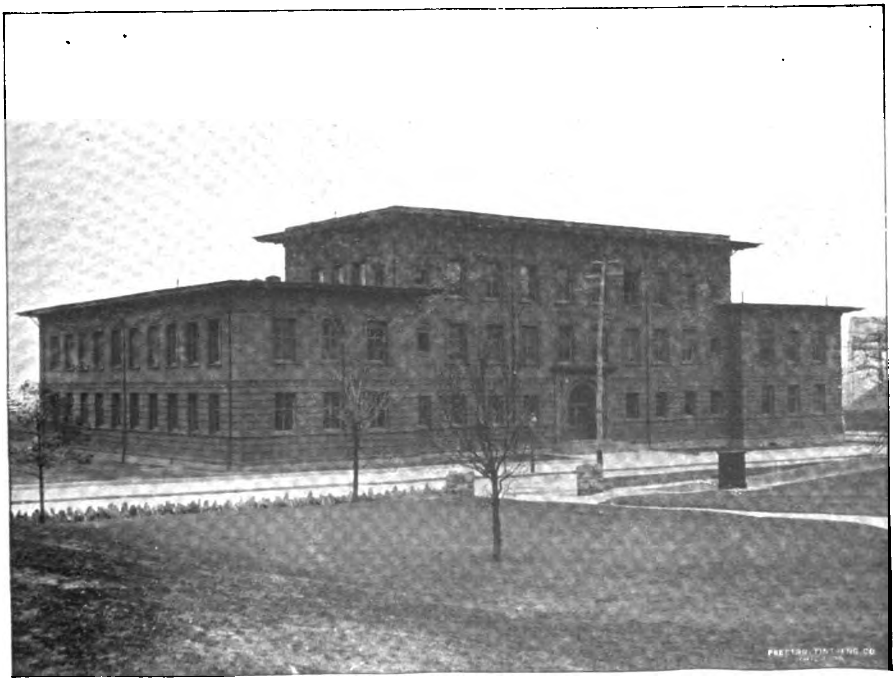
The first and principal factor in the government of man is the mind. Education is the expanding and controlling of it.

From these two facts we can see the clear road to management of our fellow-men.

By harmonizing the mind of the operator with that of the patient we have the first step. Then comes the education, which



HOSPITAL ROW.



HARRISON CHEMICAL LABORATORY.

means the obedience of the subject to mental suggestion, and our end is accomplished.

"Psycho-therapeutics," as this science is termed, plays a most important part in the practice of most of our successful dental operators of the day, and is well worth the consideration of men who are about to handle private practices for the first time.

In our practice we will find that the weaker sex will predominate as our patients by about 20 per cent., and this fact shows that the dentist must be clearly able to master the most refined as well as the coarser element.

One has to consider many things as he formulates his method of advance, as the conditions and ideas of each individual are so different. Even in these days of great enlightenment we find even among the best of people a great number who cannot be induced to pay a visit to the much-dreaded dentist until perhaps loss of sleep, hunger, pain, and even facial disfigurement have made them decide to pay him a visit.

This class of patients is worthy of our most profound sympathy, and will deserve a different mode of treatment than that necessary for the robust and ever-healthy man who knows not pain or trouble.

As this nerve-racked patient is to be a frequent seeker of our advice, let us consider a few essentials for his relief.

Let him see, first of all, that you sympathize with him, and by means of a few kind words and arrangement for his comfort make him feel at home. See that the chair is in a position to rest the weary part, even if it is only for awhile, and listen to his troubles with interest, even if it is an old, old tale to you. When you do proceed to alleviate his sufferings, by placing instruments, mirrors, or fingers into the mouth, treat the sore part as though you were aware of its being such, as nothing tends to unnerve a patient so much as a disregard for this in the first instance.

What frightens our patient most is that terribly helpless feeling coming over him and the vagueness of his immediate future, which, combined, make him dread the operation. To overcome this, treat all teeth as tender until you feel you have his confidence, and after that you will be able to really see which are sore and which are not.

Instruments are looked upon as producers of torture, brought out just for his personal benefit. With a shudder he perceives the dental engine, which sends him into further delusions. To counteract this stage, a little explanation of the means by which you purpose to employ them in the relief of his trouble will be of immense value. Get him interested in the relief project himself, and his mind will fly to the future, with perhaps sweet thoughts of relief, sleep, and other pleasant ideas to drive out the feeling of hopelessness which often occupies his mind.

When work has begun in earnest, by a careful manipulation of words, as well as instruments, let him know exactly how much pain to expect. Give him different degrees by words, as "sharp pain. dull pain, extreme," and so on. By this he will see that you know exactly what you are doing, and his confidence is won.

By using such means and common-sense methods one can very often turn the most nervous of patients into the best in the end.

Many practitioners have unenviable reputations for their absolute apathy to their patients' comfort, and, indeed, this is a fault we are all likely to fall into, as the more interested we become in our labor of filling and beautifying a tooth, the more we are inclined to imagine that the owner is merely a useless appendage to such.

We must always remember that the filling is not an end in itself, but only a means to an end, and that end is the welfare of the patient.

Once our practices are well established and reputations and patients are assured, we can treat the tooth as the end, but until then—beware!

It would be of immense benefit to every dentist who practices on his fellow-people if he could be the victim of a dental operation lasting over even a few hours, say every half year.

This would keep him well in touch with the discomfort and terrors produced by blunt inverted cones run at high speed, or a coarse carborundum wheel run without water. It might keep him in touch with the feelings produced by the fitting of crown bands—which are in most cases hammered on in the same manner as the smith fits his tires to wheels—and by gums torn and lacerated as we often see them during the operation.

Perchance, after this he would take to saving his patients the agonies produced and would apply a little local anesthetic—which, after all, is not so very costly or troublesome to use.

If any of the gentlemen present have not had the privilege of having had an ill-fitting crown band adjusted by one who is new to the art, I would like you to try one just for the sake of your future patients. To use a heavy hammer on a sore tooth is the surest way of sending a patient into a trance, I can conceive, after trying it myself as the victim.

When using a mallet to tap on a crown, always start off with a light tap and increase the force of the blow, which gives the patient's mind an opportunity to stand the maximum after following it up.

For a practitioner to have appropriate, well-cared for, and, above all, sharp instruments, is a duty we owe to all our patients.

Most of us are so tempted in our rush to accomplish as much work as possible in a minimum of time as to neglect our instruments. This gives us blunt chisels, which produce a jolt and poor results; burs blunt and worn out, which give double the amount of pain and discomfort of good ones.

Blunt excavators and such things are not tolerated by a successful man.

In the management of the rubber dam, which is a bugbear to the average patient until the operator has proved himself capable of the skillful manipulation of such, we have many ways of saving undue discomfort.

The clamp is generally the seat of all the trouble, and in most cases this is caused by its ill-fitting and altogether unsuitability for the purpose for which it is being used. Instead of grasping firmly and evenly the neck of the tooth, it touches only in four places, and those are at the sharp points. This necessitates shoving the clamp away below the gum-margin to get a grip where the cementum joins the enamel.

The rough use and overuse of ligatures is another factor which makes the dam such a dreaded contrivance when used unskillfully.

Speaking of the dam, I suppose it would be an opportune moment to give a caution I learned in a late experience of my own. I had a child about ten years of age in the chair, and immediately after fixing of the dam great consternation began. The child jumped, kicked, and used her hands in her endeavor to pull the dam to pieces. Of course, my first idea was, a spoiled child suffering from clamp affection. After some fuss and allowing her to pull the dam almost off, I found my idea was a mistaken one, as the child was fighting against suffocation. It appeared she was a sufferer from adenoids and her nasal breathing was entirely suspended. I made holes for ventilation in dam and proceeded with the idea that I had learned something new.

This shows how easily one could frighten a child to such a degree as to make dental visits full of fear for years to come.

The treatment of our child patients is going to be a serious proposition to many of us, as our experience with this class has been small.

Those who have a natural love for the child and use that in conjunction with tact will have little to fear, but those who have a natural apathy toward children will find it an uphill game to overcome.

Dr. Kirk says always be frank with a child; treat them firmly, yet gently, speaking in commanding tones. Never say "Won't you?" or "Please do this or that," as it gives the child the privilege of choosing. Always relieve their pain, even if you have to inflict pain in so doing.

Dr. Darby says treat the children well and you will have good patients in years to come. He also says the most nervous children very often turn out the best of patients. There is a peculiar similitude between some nervous adults and children, and that is in their respiratory movements. You will notice when you approach a very sensitive place the breathing ceases for the time through reflex action and helps to make the patient doubly afflicted. It is a good idea to look out for this and remind them, when you notice it, to breathe hard.

Always avoid personal contact as much as possible in operations. Pay special attention to cleanliness in every detail. Don't keep your patients too long at a single sitting. These are also a few useful hints from those who know from experience.

To conclude this paper, in which I have set forth a few facts as regards the psychological and general treatment of the patient, I have here to set down the greatest of all, for both ourselves and our patients—that is "Be gentlemen."

PRACTICAL SUGGESTIONS.

Personal Cleanliness.—As dentists we should be clean physically and morally if we would achieve the greatest success and enjoyment for ourselves and do the best in us for our patients. There is no greater compliment than to have our patients say that they come to us because we "are so clean"—clean men in every sense of the word.—*Northwestern Dental Journal.*

Wire Cutter.—Grind a notch in your plate shears near the joint and you have a good wire cutter.—*Dental Hints.*

To Prevent Gagging.—Bathe the roof of the mouth with a menthol solution applied on a pledget of cotton before inserting the impression tray.—*Dental Summary.*

Quick Investment Material.—For quick investment for soldering bands, clasps, and teeth, the following mixtures may be kept on hand ready prepared: Equal parts of prepared chalk and fine sand, kneaded in glycerin, making a plastic mass similar to moldine.—*Dental Hints.*

Concerning Arkansas Stones.—Wash your Arkansas stone with soap and water and never again use oil upon it. While operating keep it on the bracket table and sharpen all cutting instruments, with water only, before using. Water is more cleanly, efficient, and presentable than oil. It oxidizes the particles of iron and the oxid aids in producing a keen edge.—*Dental Review.*

Hand Sapolio is better yet. It is a good solvent and contains a fine grit, which greatly enhances its detersive properties for this purpose.—Dr. Kirk.

A Useful Application for Sore Lips while Operating.—I find that a little collodion is very useful to apply to sore lips before beginning to operate. It takes out the soreness, protects the lips, and they heal rapidly after the application. It is also useful to apply to wounds on the hands, as it reduces the danger of infection, and washing will not remove it.—W. J. Hemphill, *Dental Review.*

To Prevent Fracture of Vulcanite Denture.—When gum sections are used, to prevent fracture between sections place a loop of platinum wire around the pins on each side of the joint; twist the ends together, flask, and vulcanize.—*Western Dental Journal.*

Holding Rubber Dam.—When the rubber dam will not stay where you want it under the gum, use fine copper wire as a ligature, and it will readily adapt itself just where you desire it to stay.—L. W. Jordan, *Summary.*

Mixing Amalgam.—Place mercury and alloy on a piece of rubber dam in the palm of the hand. Gather up the corners and edges and twist them together; place the bulbous portion against a flat, smooth surface and roll vigorously. The advantages are obvious.—R. L. Graber, *Dental Review.*

Convenient Use for the Rubber Dam.—A strip of dam about 2 inches wide and 4 inches long—or as long as necessary for the case—placed over a heavy moustache and tightened up with the holder will give great comfort to the operator while working on the posterior lower teeth.—Oliver Martin, *Review.*

Method of Making Surface of Wax Smooth.—A smooth surface on a "waxed up case" can be obtained without spoiling festoons or gum carvings by adopting the following method: Smear the surface of the wax with a pellet of cotton saturated in chloroform. Burn off the chloroform with an alcohol lamp or a small Bunsen flame. This will leave a smooth, glossy surface on the wax and will destroy previously carved gums.—*Dental Review.*

Making a Plate Line on a Model.—Usually this is accomplished by making a mark with a pencil on the model where the border of the plate is intended to extend. The wax base-plate is then trimmed so that the edge conforms to the outline of the mark. This would be satisfactory if the model and mark could be preserved after vulcanizing, but as this is impossible, it is necessary to resort to some other method to accurately determine the location of the correct edge of the plate after it has been vulcanized. This is easily accomplished by cutting a small groove in the model at the border of the plate. The rubber will sink into this groove and show distinctly after being taken from the flask, and the operator can easily trim the surplus rubber from the plate with a feeling of security.—*Dental Review.*

Sodium Bicarbonate in Prophylaxis.—In my opinion, the cleanest, the easiest, the safest, the simplest, and cheapest method of keeping the oral cavity clean, preserving the integrity of the gum tissue, removing inflammation of all the buccal surfaces, and the mucous membrane lining them is by the use of sodium bicarbonate alone. Use as a wash in the strength of a teaspoonful of the bicarbonate to an ordinary glass of tepid water, three or four times a day if possible.—BENJ. LUCKEY, *Items of Interest.*

To Keep the Gingival Margin Dry Without Rubber Dam.—Prepare the cavity and place a napkin in position. Saturate a little floss silk, or small, loosely twisted thread of absorbent cotton with thin cement. Dry the cavity, and pack the silk or cotton around under the gum margin. This method is often useful where the rubber and clamp are in position and the rubber is stretched so that it does not pass under the gum margin at the sides of the clamp.—R. E. SPARKS, *Dental Review.*

Protection of Cement while Setting.—In cases where moisture can be excluded from a cement filling but a short time, press a piece of tin-foil over the fresh cement. It will adhere and protect the surface until hard.—M. G. MCELHINNY, *Dental Review.*

Faulty Dentures.—To clearly locate on the plate the irritated spot, place a little moistened whiting on the curve of a spatula and apply it to the spot in the mouth. Put the plate in place, and on removing it the place demanding relief is clearly indicated.—L. P. HASKELL, *Review*.

Method of Cleaning and Polishing German Silver.—German silver is very often used in dentistry, but is rather hard to swage and polish. While working this metal I anneal it by heating to a red heat and plunging in a solution of oxalic acid. This cleans and softens the metal better than any method I know of. When the appliance is ready to polish I employ Burnishine or Solarine instead of pumice or whiting. I accidentally discovered this method and find it effective.—C. J. HADLEY, *Review*.

Matrix for Inlay Work.—The less the matrix is burnished in the deep parts of the cavity and the more it is thinned out at or near the margins the more nearly will the margins of filling and cavity meet.—C. N. THOMPSON.

To Prevent Chapping of the Hands.—Violet talcum powder is useful to dry the hands after washing, and serves the double purpose of giving a pleasant odor to the hands and helps prevent chapping due to frequent washing.—*Dental Review*.

"There are exceptions to all rules except one, viz: In filling a proximo-occlusal cavity with amalgam a matrix should be used."—DR. JACO's answer to a frequent question in the clinic.

If a generous supply of glycerin of high specific gravity be added to the pumice and water used in polishing plates, etc., the laboratory will not look as if it had been visited by a sand storm.—DR. J. G. LANE.

Pure gold cusps that are swaged between dies and counter-dies of Melotte's metal, Richmond's metal, or similar low-fusing alloys need not be pickled in acid to remove traces of the alloy if the swaging be done in a vise instead of under a hammer. The action of the vise is slow enough to allow the die and counter-die to become exactly adapted to each other and the gold will not be marked.—DR. J. G. LANE.

Before adjusting the rubber dam, punch a hole in each upper corner. When the clamp and dam are placed on the tooth and the dam is as yet more or less bunched and tangled, the holes at once establish the identity of the corners to which the strap will be fastened.—DR. J. G. LANE.

A Matrix for Concave Cervices.—Difficulty will often be experienced in fitting a matrix on an approximal surface when the tooth presents on that side a concave instead of a convex shape. such as is frequently seen in upper bicuspids. By using very thin copper plate in conjunction with the Ivory matrix and holder, an appliance may be made in a few minutes that will not only hug the entire cervix closely, but will stand the strain of the filling operation much better than will a copper matrix alone.

Thoroughly anneal a piece of copper large enough to extend, say, an eighth of an inch beyond the lingual and buccal borders of the cavity. With pellets of cotton or bibulous paper press this to fit the cervical border. Remove carefully, and into the concave or outer surface flow (at the cervical portion only) hard wax, until a convexity is obtained. Return to place and adjust the Ivory or any similar matrix as usual. The free edge of the copper may now be burnished against the steel matrix. The use of hard wax is advisable only when the cavity is to be filled with amalgam. If the filling is to be of gold, use soft tinner's solder instead of wax, then shape with a disk.

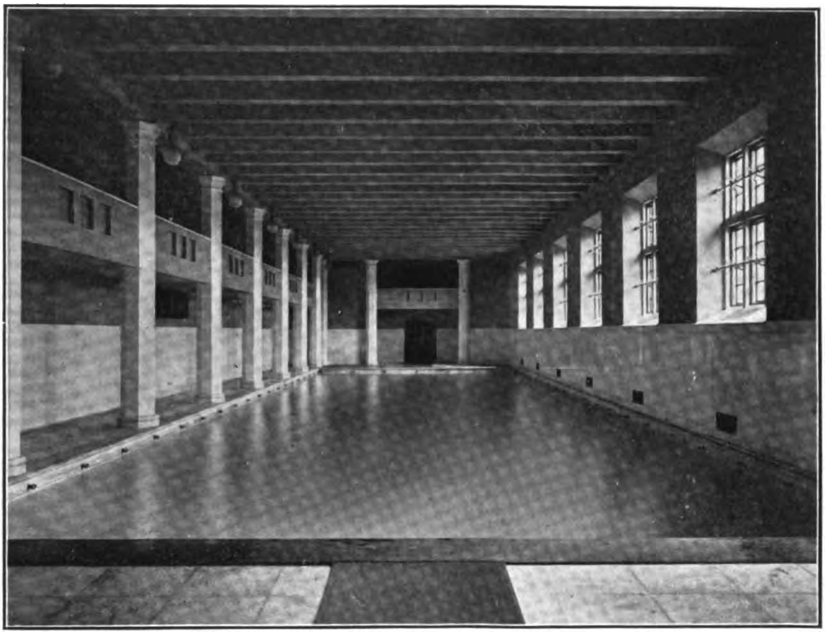
When this appliance is removed, after the insertion of the filling, there will be found no overhanging ledge at the central portion of the cervical wall, as is the case when the ordinary matrix is employed.—ALFRED P. LEE.

EDITORIAL.

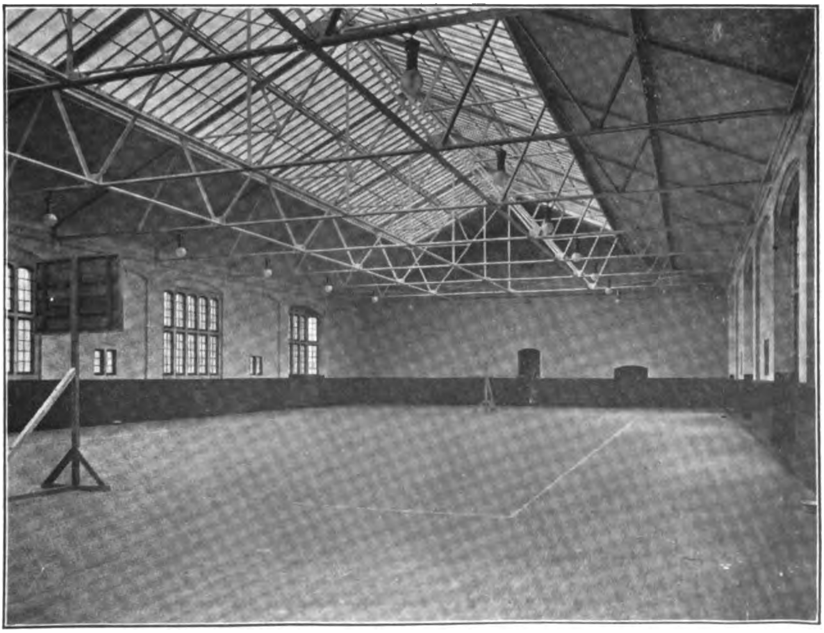
Experience.

PERHAPS the most essential attributes to success in all walks of life are experience and skill, and particularly is this true of the professional man. Skill is acquired by experience either directly or by inheritance, but experience must be secured personally. It is hardly necessary to emphasize the importance of experience to the dentist, but the ways in which experience is secured are so unscientific that a careful study of the subject can but be of interest, especially since the word experience is used to cover and atone for a great many sins that a great many dentists of the older school have committed.

Someone has said that "Experience is the best teacher," but like all other teaching the effect of the lesson depends upon the pupil and the way in which the instruction is received. There are right and wrong ways to receive the teachings of this master,



SWIMMING TANK IN GYMNASIUM.



WEIGHTMAN HALL—GYMNASIUM.

just as there are right and wrong ways to receive the teachings of the different members of a college faculty.

Two persons may arrive at the same conclusion from an observation or a series of observations—the one by the expenditure of a maximum, the other by the expenditure of a minimum amount of energy.

It is natural for all persons to observe, to use, to practice, to try, and the knowledge acquired in this way is experience. Now, as science is classified knowledge, so as our observing, our using, our practicing, our trying, and the knowledge secured in these activities are classified our experience is scientific. That all dentists should profit in their profession by the teachings of experience is undeniable; that all do not is equally true. Two dentists in practice are equally good workmen. Both undertake similar minor operations—say treatment of a pathological condition by a new method. We will say that one dentist does the work and turns the patient away after a certain treatment, which he decides has effected a cure. Now, perchance, all may do well and he considers the new treatment a success. But we will suppose that one-fourth the patients return with trouble in the treated part. As five failures make a much greater impression upon a person's mind than fifteen successes, especially in cases like these, where the successes are seldom heard from, the dentist naturally decides that the method of treatment was at fault, and discards it. It is beyond supposition to think that many dentists could remember, any more than the patient, the part and the fact that he had treated it, and these within a certain time limit. Very few dentists could remember the minute details of the conditions connected with each of those individual cases.

But, perhaps, in a certain number of cases, there were conditions which might make the successful treatment of the part uncertain.

These conditions the busy dentist would hardly remember, and after a time all the cases would look alike to him, and he has learned nothing by the experience, for you cannot reason by cause and effect if you have forgotten the cause.

The other dentist, we will say, has kept a faithful record of all the cases, and if there are any conditions which might cause the failure of the treatment, he has recorded them. Upon the return of the patient, he can immediately refer to his record and will then have not only better information upon which to judge whether the failure was due to the treatment or to some of the conditions present, but also some data upon which to base his deductions.

Which one of these has profited by experience? The first, if he has enough failures, will learn in time that the treatment is not a good one, or he may discard it even though it be a good one. He will learn only by the multiplicity of his successes or failures. Besides he has wasted unnecessary time and energy in coming to a conclusion at which dentist number two would soon arrive.

Deductions may be incorrect when the data are unquestionable, but no one is so illogical as to expect to make correct deductions when his data consist of what he can remember of operations done long since.

Let these examples serve as illustrations for any or all cases arising to the practitioner, and they will lead to the conclusion that the keeping of records of all his work in a systematic manner is essential to the securing of an experience upon which he bases a judgment which is scientific and which is acquired with the expenditure of a minimum amount of energy and time.

Considerable time is saved by keeping these records, for if a thorough examination of the mouth be once made and the conditions recorded, the dentist can go about his work in a systematic manner and there would be no necessity for a re-examination of the denture at every sitting, as is often done. The work could be planned for each sitting, and thoroughly systematized.

As each operation is performed, it is recorded, and the record is a reference which may be valuable also for legal purposes or for identification of the patient.

To make a thorough study of any particular subject in dentistry from observation, we can do it best by having our cases side by side, as it were; so why should not a sort of ledger be kept in which to record the different kinds of cases the dentist is treating and studying, keeping each under its heading and giving an abstract of each? For instance, the operator could make one heading pericementitis, and under it post from his record-sheets all such cases, with all the data that will help him make a study of the disease, and the same with abscesses, pyorrhea alveolaris, lead poisoning, and other of the operations that require continual study.

Then, when he wished to study any particular disease, he would have a summary of all his work with such cases, and deductions drawn from such data would certainly be more likely to be correct than those drawn from facts that he recollected. Then his reasoning would be scientific and his experience would be of value to him. He would eliminate the element of guess-work that enters so much into the deductions of the average dentist. The objection may be offered that this is not practical; that few dentists would take the time and trouble; but the time required is not more than would be necessary to study the deductions of someone who had studied these cases, and perhaps in some such manner as described, and in the one case you have experience and in the other information.

The Campus.

THE splendid appearance of the campus is due almost entirely to the deep interest taken in our surroundings by Mrs. Charles Custis Harrison. For more than ten years she has been engaged in improving and beautifying the grounds, and every detail has been a special object of her attention and thought. The great expense incurred in this work she has defrayed with the substantial gifts of friends whom she has interested in her work, and by her own generous donations. Every University man is her debtor and gladly acknowledges the debt. The purpose of these lines is to acquaint our absent ones—our alumni—of this unselfish devotion of the noble helpmate of our honored Provost, and to ask every student to assist Mrs. Harrison in retaining the present beauty of the campus, and increasing its charms by not only taking a personal pride in our grounds, but also by preventing, whenever possible, careless and thoughtless actions of students and others which have a tendency to disfigure the campus.

Receptions to Seniors by Dr. Kirk.

DR. KIRK'S receptions to the sections from the Senior Class were enjoyed by all, which fact must have been plainly evident to the genial host. The boys find that Dr. Kirk, Dean, and Dr. Kirk, a frankly hospitable host, are two different personages, and his versatility, together with his fine collections of works on dentistry, both early and modern, instruments, laboratory, etc., furnish an evening of delightful entertainment to all who availed themselves of the opportunity to visit his home in Lansdowne.

The Proper Spirit.

THE JOURNAL has at different times expressed its indebtedness to different organizations and publications for kindnesses rendered in the publication of different issues. But we now wish to note the fact that there has been shown and is existing between different organizations of the University a feeling of sympathy and harmony which has been followed up by things definite, which it is most desirable to retain, and which must result in good to the associations affected and to the University.

In positions of this kind mutual helpfulness is beneficial to all concerned, and petty jealousies can prove only harmful. We, therefore, the retiring Board, wish to thank all who have, in any way, helped to make the JOURNAL a success during the year, and to ask the same kind consideration for our successors.

Dr. R. Tait McKenzie.

THE JOURNAL is pleased to present as a frontispiece for this issue a likeness of Dr. R. Tait McKenzie, who was last fall elected Professor of Physical Education, and who was recently made a regular member of the Medical Faculty, with the same title. Dr. McKenzie's biography has been published so often, recently, in the city and University papers that we will not repeat it here, but he is so closely related to all the departments that we can include him among our gallery of dental teachers. We also produce a group picture of a number of the members of our faculty, but from which, unfortunately, some members are missing. In view of the fact that we cannot name the picture "The Dental Faculty," we let silence maintain the dignity of the scene, and omit any title to a picture that all Penn men will recognize at a glance.

DENTAL SOCIETIES.

James Truman Society.

AT the regular meeting of this Society, held March 2d, Dr. Wm. F. Fine was present, and delivered an interesting discourse on "The Restoration of the Lingual Surface of Teeth in Rubber Work."

The paper read by Mr. Gilbert H. Wood, upon "Phosphor Necrosis," was highly beneficial to all present, as the writer spoke from experience.

Mr. Orr's paper was likewise very instructive, his subject being "Local Anesthesia." The writer deviated somewhat from the regulation procedure by explaining the contents of his paper diagrammatically.

Upon the evening of March 16th, Dr. Darby favored the Society with a very instructive talk upon "Details in Dental Practice." Mr. Cook read a paper upon "Actinomycosis" and Mr. Sandstein upon "Tumors and Their Causation."

Drs. Joseph Head and John Q. Byram were requested to speak before the Society on March 30th, and both gave their ideas upon porcelain work as applied to inlays principally.

Although at variance in some minor details, in the main both agreed, and the members were benefited greatly by their views upon the subject.

Upon April 13th, papers were read by Messrs. Spriggs, Wenk, and Baumann.

April 27th, as this was the last meeting in the year, the election of officers for the ensuing year was the chief business of the evening coupled with the announcement of the successful essayist for the Society's essay prize.

Dr. Truman, the examiner of the papers sent in for this essay prize, was present for the purpose of delivering his report. When called upon to do so he complimented the Society highly upon the literary standard attained by the writers of the respective essays, and also added in closing that he wished to congratulate the Society upon the work it had attained during the past year, which was worthy of special commendation, and which was an honor to the University.

It was with the greatest deliberation that a decision was reached. However, Mr. Sandstein's paper on "What is a Tumor? What is Its Causation?" gave such a clear presentation of the subject, combined with original thought, that he was awarded first prize.

The following papers were accorded honorable mention:

(1) "The Saliva as an Etiological Factor in Certain Dental Disorders," by A. R. Walker.

(2) "Specialization in Dentistry," by Milo Hellman.

(3) "Hemorrhage Following Tooth Extraction," by C. H. Griffith.

(4) "The Use of Local Anesthesia in Tooth Extraction," by H. W. Orr.

(5) "Adenoids: With a Glance at Orthodontia," by C. J. Brothers.

(6) "Some Sociological Aspects of Dental Caries," by C. C. Voelker.

The election of officers then took place, with the following result:

President—W. F. L. Barry.
Vice-President—B. Wesbecher.
Secretary—J. J. Brosnan.
Treasurer—George W. Pulver.

The chair was then vacated by the retiring President, Mr. Evan-Jones, and the new officers entered upon their duties, determining one and all to do everything within their power to advance the interests of the Society.

All members then adjourned to a sumptuous banquet and smoker, sociability reigning for the remainder of the evening.

Thus in a most appropriate manner was the session of 1904-05 of this Society brought to a successful issue.

Edwin T. Darby Dental Society.

The annual smoker of the Society took place at the Houston Club, on the evening of March 13th, which occasion afforded no small amount of pleasure to the members.

A superabundance of smokers' paraphernalia, an elaborate luncheon, a delightful musical program, and the presence of various members of the faculty and of the corps of demonstrators were the means for the success of the occasion.

Dr. Kirk delivered an impromptu speech, during the course of which he eloquently eulogized our honorary president, Dr. Edwin T. Darby.

He took for his theme "The Best is None Too Good," and applied it to Dr. Darby's teachings.

The annual smoker is one of the most pleasant events of the year for the members and creates much interest in the general working of the Society.

At the meeting held on March 20th, Mr. Casares read a paper on "Combination Fillings," after which the following gentlemen were initiated:

A. P. Davidson, '07; Harold Chapman, '05; D. P. Taggart, 05; W. E. Jones, '05; G. H. Nettleton, '06, and J. F. McEnany, '05.

Mr. Evan-Jones, '05, addressed the Society the following meeting, April 3d, on "Some of the Difficulties in Porcelain Inlay and Crown Work."

Mr. Craver then read a paper on "Culture as an Adjunct," and was followed by Mr. Robert Zulauf on "General Surgery *versus* Oral Surgery."

Mr. Moore read a paper on "Obtunding the Sensitivity of Dentin," and Mr. Dennis read one on "Dental Disorders Occurring During Pregnancy."

Mr. Oliver, '07, was initiated, after which the meeting adjourned until April 17th.

At this meeting Dr. Turner favored the Society with an exceedingly interesting address, the subject of which was "The Retention of Upper Plate Dentures."

Mr. Shaffer read a paper on "The Proper Treatment of Children," and Mr. J. B. McEnany dwelled at some length on "The Administration of Nitrous Oxid."

The meeting adjourned till May 1st, after the initiation of Ervin, '07; Richards, '05; Hart, '06, and Nesbit, '06.

The following members read papers at the next meeting: A. H. Hunter and J. F. McEnany, their respective subjects being "Predisposing Causes of Erosion" and "Extraction."

Messrs. Galligan, '07, and Entriken, '07, were initiated, after which officers for the ensuing year were nominated.

In reviewing the year's work of the Society, it may be said that its standard has been materially elevated, although its growth has been healthy and uninterrupted since its foundation.

The Edward C. Kirk Dental Society.

At the meeting of February 2, 1905, Dr. Weeks entertained the Society by a discourse upon "Orthodontia."

E. F. Molle, '05, read a paper upon "The Psychological and General Treatment of the Patient," which was very well received.

W. Melick, '05, read a paper on "Syphilis in Dentistry."

N. J. McKone, '05, read a paper, the subject being "The Scientific Practice of Dentistry."

The first paper of the evening of March 15, 1905, was read by W. F. Praul, '05, subject "Perforations."

T. H. Glynn, '05, read a paper, entitled "Syphilis of the Oral Cavity."

J. R. Highsmith, '05, read a paper upon "Tumors."

Dr. Seymour, assisted by Drs. Paul and Martin, gave a practical demonstration and very interesting talk upon "Somnoform."

M. A. Holland, '06, and W. E. Sammis, '06, were elected into membership of the Society.

March 30, 1905, the meeting was opened by a paper by J. C. Sippel, the subject being "Transplantation of Teeth."

G. L. Scheffer, '05, read a paper upon "The Transplantation, Replantation, and Implantation of Teeth."

The last paper of the evening was read by W. von Ostrowski, '05, the subject being "Detachable Porcelain Crowns." He had made specimens of all of the crowns mentioned in his paper, which were used to illustrate their many points of advantage and usefulness.

April 13, 1905, Dr. Allen entertained the Society with a short paper, entitled "The Bing Crown for Loose Teeth." He also gave many useful hints upon things to make office work easy.

Papers were read by F. M. Sherman, '05, subject "Diagnosis," and A. H. Spicer, '05, subject "Sterilization in Dentistry."

The following new members were elected: Eligio F. Ros, '07; Leonardo Ros, '07; A. Salgo, '06; R. M. Parker, '07; A. T. Dooley, '07.

April 20, 1905, Dr. Kirk, the speaker of the evening, gave a very interesting talk upon "Clinical Dentistry."

The nominations of officers for the ensuing year resulted as follows:

President—Holland, '06.
Vice-President—Lombard, '07.
Secretary—Sherlock, '06; Aller, '06.
Treasurer—J. McKone, '07; Wallace, '07.
Sergeant-at-Arms—E. A. Smith.

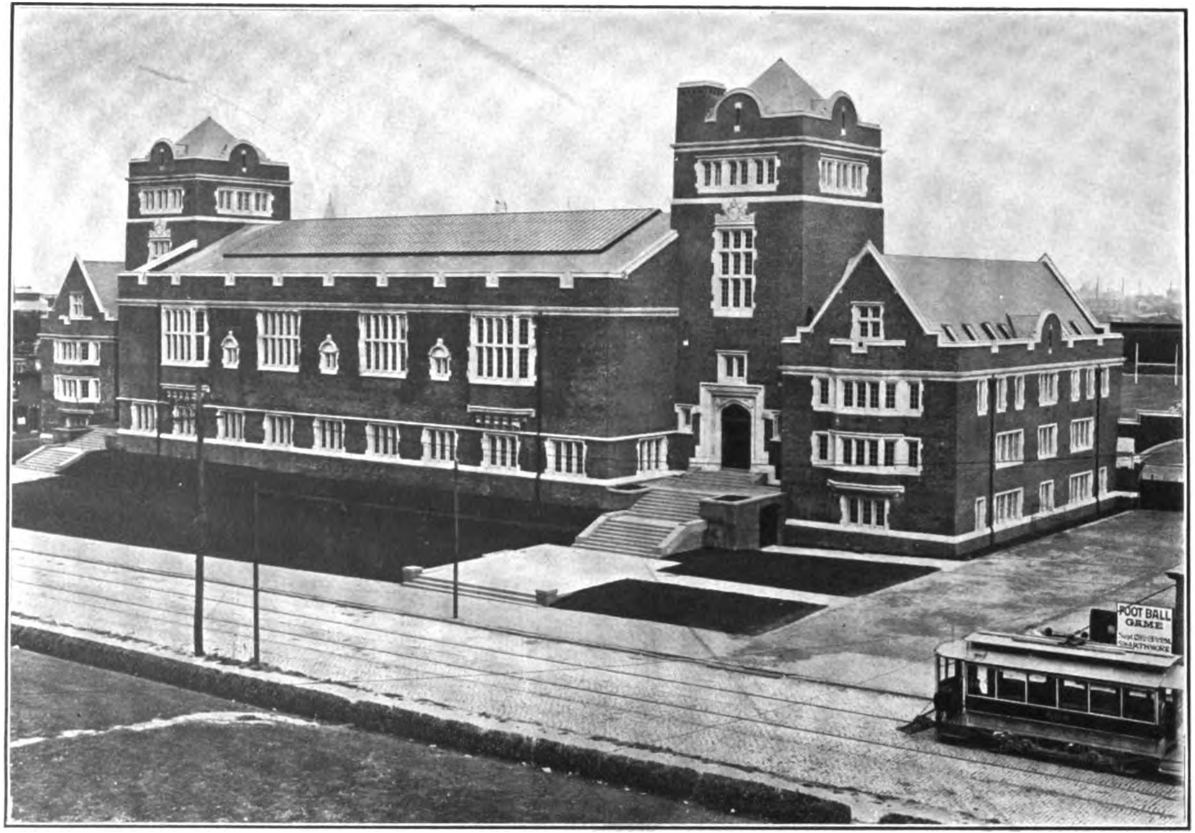
The attendance for the entire session was very good, and the meetings, as a whole, the most interesting during the history of the Society.

THE DEPARTMENT.

Dr. Burton Lee Thorpe a Visitor.

Dr. Burton Lee Thorpe, Dean of Barnes Dental College, St. Louis, Mo., was a visitor at the Dental Department of the University of Pennsylvania, on Tuesday, March 21, 1905, and investigated its methods and equipment.

Dr. Thorpe, who is associate editor of *Dental Brief*, was induced, upon the solicitations of Dean Kirk, to address the students upon his favorite topic, "The History of Dentistry," which he did in a manner which won sincere applause and left a most agreeable impression.



By Courtesy of the General Alumni Society,
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THE GYMNASIUM.

Dr. Thorpe dealt with the question largely from the biographical standpoint, giving sketches of some of the most notable among the pioneers of dentistry, whose methods became prominent. They were men of broad and varied culture, strong in other departments of science and art.

Among them were the Chevalier Lemaire, James B. Gardette, Edward Hudson, Eleazer Parmly, Leonard Koecker, and Solyman Brown.

Edward Hudson was a musician of rare talent and a close friend of Tom Moore; Gardette, Hudson, and Koecker were practitioners of great repute in Philadelphia.

Dr. Thorpe emphasized the desirability to dental students of the study of the lives of the men who helped so much to elevate the profession of dentistry, and urged his hearers to emulate in their own futures the high examples presented for their consideration.—*Old Penn.*

Annual Banquet of Delta Sigma Delta.

AMIDST the splendor of beautiful floral decorations and excellent music the annual banquet of Epsilon Chapter of the Delta Sigma Delta Fraternity was held at the University Club, on the evening of April 12th, and was probably the most enjoyable affair of its kind ever witnessed by Epsilon members.

The occasion was of especial interest, owing to the presence of several of the members of the faculty and of visiting members from distant chapters.

Among those from the Dental Department may be mentioned Dr. Edwin T. Darby, Dr. Chas. R. Turner, Dr. R. Hamill D. Swing, Dr. Fred A. Peeso, Dr. S. Merrill Weeks, Dr. W. W. McKay, and Dr. Elon L. Kanaga.

Dr. Chas. R. Turner acted as toastmaster, and his frequent manifestation of Southern wit was one of the features of the evening's entertainment.

Drs. Swing and Peeso, and Messrs. Ashplant, Lamb, Barrett, Capell, and Stevenson responded to toasts which were fittingly assigned to them.

Dr. Darby, although not on the toast list, very kindly favored those assembled with a few choice remarks.

The members will not soon forget this enjoyable occasion, nor will they regret it when opportunity to attend another presents itself.

Psi Omega Banquet.

THE annual banquet of Zeta Chapter was held in the Clover Room of the Bellevue-Stratford, on the evening of April 11th.

The tables were arranged in the form of a horseshoe and were tastily decorated with ferns and cut flowers. The decorations were carried out in the main with the fraternity colors.

The guests, including the honorary members, a member of the Supreme Council, and several alumni, were seated at 8.30 P.M., with Dr. Joseph Head as toastmaster.

During the evening college and fraternity songs were sung and the following toasts were given:

"Psi Omega," Dr. J. E. Nyce.

"Relative Value of the Old and New Dental Therapeutics," Dr. James Truman.

"Dental Oral Surgery and What a Dentist Should Know," Dr. M. H. Cryer.

"Our Alumni," Dr. Victor Cochran.

"The Seniors," I. L. Neill.

"The Juniors," T. F. Sherlock.

"The Freshmen," H. T. Lombard.

In addition, several were called upon by the toastmaster for impromptu speeches.

When the time came to disperse, "Psi Omega" was sung, and the affair was unanimously voted one of the most enjoyable ever held by the Chapter.

The Xi Psi Phi Banquet.

THE sixth annual banquet of the Xi Psi Phi Fraternity was held at the Colonnade Hotel Tuesday evening, March 7, 1905. Covers were laid for fifty-two, many of the graduates and honorary members being present.

The toastmaster of the evening was M. R. Burke, '06.

Toasts were responded to by Grand Master S. V. Moore, '05; Deputy Grand Master J. T. Lillis, '05; Val A. Stoltz, '05; E. L. Richards, '05; Dr. Johnson, '03; R. S. Stevens, '06; T. G. Aller, '06, and H. A. Freeman, '07.

Dr. E. Whinnery, '99, Dental Surgeon in the United States Army, was present, and gave an extended talk on "Army Life of a Dentist" and his experiences in the Philippine Islands.

Dr. Hanna, '99, first Grand Master of the fraternity, was also present and talked upon the details in dental practice.

After the toasts, all joined in singing the college and fraternity songs, and at an early hour adjourned to their respective quarters.

Dr. Kirk in Georgia.

DR. KIRK delivered an address before the Georgia State Dental Society, on May 4th, on the subject of "The Formation of Tartar on the Roots of Teeth, and Its Removal." A description was also given of a new type of instrument adapted to the removal of these deposits. The visiting lecturer was made an honorary member of the Society and was entertained at a number of luncheons and banquets. The meetings closed with an old-fashioned Georgia barbecue, at which about two hundred members with their wives and friends were entertained with plantation songs and dances by a band of Georgia darkies.

Dr. Kirk was so well pleased with his reception and entertainment by his hospitable Southern hosts that he says he is going back next year to the meeting of the Association to be held in Savannah.

Department Notes.

DR. GRITMAN made an address before the Central Pennsylvania Dental Association, at Huntingdon, on April 4th. His subject was "A Practical Definition of Dental Prosthesis." Instead of criticising his address, the members of the association asked to be allowed to ask questions, which they did, and the genial professor showed his thorough knowledge of the subject by the manner in which he answered their queries.

Mrs. Annie Stout is again absent from her place in the clinic, and it is doubtful if she will ever recover her strength sufficiently to stand the work required of her there. After her serious illness during the fall she returned and resumed her duties, but her failing strength compelled her to relinquish a post she has held long and faithfully.

On March 21st and 22d, Dr. Meyer L. Rhein, '81, delivered lectures on "The Dental Pulp" and the "Technique of Root Canal Filling." He also gave clinics on these subjects, of which he has made a special study and in which he has had great success.

Dr. Adolph Baer, Lecturer on Medical and Surgical Diseases of the Mouth in the Dental Department of the University of California, lectured in Dental Hall, on Thursday, April 13th, on the "Development of the Head, Face, Mouth, and Teeth."

Dr. Baer is an eloquent speaker, and his lecture, which was illustrated by means of a large and fine selection of stereopticon views, was enjoyed by a large audience of students.

On March 27th, Dr. John Q. Byram, Professor of Prosthetic Dentistry in the Indiana Dental College, Indianapolis, was introduced to the two upper classes by Dr. Turner, and made a short but interesting address, in which he paid a high compliment to our dental school. Dr. Byram was here to deliver an address before the Academy of Stomatology, and made many friends during his short visit to the Department.

Alumni Notes.

DR. JAMES E. HEAP, '01, was married on May 17, 1905, to Miss Emma Edna Brown, of Rochester, Pa.

Dr. E. R. Shedden, '04, is now located at Remus, Mich.

Dr. Oscar Freudenfeld, '04, is practicing at 20 Basteisgasse, Brunn, Austria.

Dr. A. R. Frazer, '04, of Rochester, N. Y., was married there recently to Miss Edna Irene Thomson.

Dr. John H. Carter, '04, has opened offices at Cohoes, N. Y.

Dr. James D. Carleton, '04, formerly of Maine, is now located at 100 Boylston street, Colonial Building, Boston, Mass.

Dr. M. A. Leach, '03 D, is now practicing at Heppner, Oregon.

Dr. Charles L. E. Newland is located at Serrano 5 pral, Madrid, Spain.

Dr. Frank W. Watlington, '97, of Hamilton, Bermuda Islands, has been visiting in Boston on special medical and dental work. Dr. Watlington has an extensive dental practice in the islands, where he is also contract dental surgeon for the British Army.

Dr. Oscar G. Gerber, '00, who is practicing at Orange, N. J., was a recent visitor at the Department.

Dr. Leon T. Bigham, '02, in company with his wife, recently visited the Department.

Dr. W. D. White, Jr., '01, has been visiting the Department and at the same time giving the baseball team the benefit of his experience.

Dr. A. R. Bain, '03, M.A.C.D., of Melbourne, Australia, has an article in the Australian *Journal of Dentistry*, published by the Australian College of Dentistry and the Melbourne Dental Hospital. His article is entitled "An Australian's Ideas on American Dental Education." Dr. Bain's article is a markedly vivid description of the entire dental course at Pennsylvania, which shows that not only was the author particularly observing, but that he feels that the dental course here at the University is a model one, and on its principals should Australian dental courses be modeled.

Sergeant George E. Davis, '01, of the Ninth Infantry, has passed the examination for second lieutenant. Being unable to receive an appointment at West Point after graduation, Dr. Davis enlisted as a private. He graduated with honor with the Class of 1901.

Dr. Frederick S. McKay, '00, has moved from Colorado Springs to 1313 Chemical Building, St. Louis, Mo.

Dr. Frank B. Bostwick, '02, who was practicing in Madrid, Spain, has removed to Gibraltar, having offices at D 10, H 22, Church street.

Dr. J. Arthur Standen, '02, is business manager of the *Dental Alumni Annual* of the University.

Dr. Harry D. Winsmore, '02, is visiting dental surgeon to the Southern Home for Destitute Children, Philadelphia.

Dr. Henry H. Peters, '02, is now practicing at 35 West Thirty-eighth street, New York City.

Dr. J. P. MacLachlan, '02, is associated in practice with Dr. J. A. Breth, at northeast corner of Queen and Yonge streets, Toronto, Canada.

Dr. J. Erwin, '01, visited the Department recently. Dr. Erwin is located in Bethlehem, Pa.

Dr. Charles C. Dupont, a graduate of the Department of the Class of 1898, died in Savannah, Ga., on March 23d.

The wedding is announced of Dr. A. Beeber Vastine, '04, to Miss Louise Francis McClure, of Philadelphia. Dr. Vastine is located at Lewisburg, Pa.

Dr. Harry F. Reynolds, '96, was married, on April 26th, to Miss Frances E. Daley, at Carbondale, Pa.

Dr. Zacharie Eudlitz, D.D.S., '03, University of Pennsylvania, was a recent visitor in Philadelphia from Paris, France. He sailed for France on May 4th, accompanied by his bride, who was Miss Minnie DeHaan, of North Forty-first street.

Dr. Eudlitz was the first president of the French Students' Club of the Department of Dentistry, and is now president of the University of Pennsylvania Alumni Association in France. Dr. and Mrs. Eudlitz will be at home to their American friends after June 1st at 3 Rue d'Athenes, Paris.

University Column.

WITHIN the last year and a half there were organized at the University of Pennsylvania seventeen state clubs, one Canadian club, one French club, and twenty-three Pennsylvania county clubs, besides a number of school clubs. When this movement was begun in the fall of 1903, the only sectional clubs in existence were the New York State Club and the Southern Club, which were successors of the old College Club of the University of Pennsylvania.

JOHN BACH MCMASTER, A.M., Litt.D., LL.D., Professor of American History in the University of Pennsylvania, has been appointed a member of the Board of Electors of the New York Hall of Fame, in New York University.

THE JOURNAL is indebted to *Old Penn* and the *Alumni Register* for the loan of some of the cuts used in this issue.

Fraternity Bible Classes in Colleges.

THE *Intercollegian* for February, 1905, contains some interesting statistics concerning Bible classes in college fraternities. The University of Pennsylvania has the largest number, 9 classes, with 125 men enrolled; Ohio has 8 classes, with 62 men; Cornell, 8 classes, with 112 men; Amherst, 7 classes, with 80 men.

It may be noted that in some of the larger colleges, as in Princeton, secret societies are prohibited by the faculties, or are not prosperous for other reasons.

The Fraternity Bible Classes of the University of Pennsylvania are: Alpha Chi Rho, P. V. D. Shelly, leader; Alpha Tau Omega, L. P. Bailey; Delta Kappa Epsilon, S. C. Pratt; Delta Sigma Delta, G. H. Wood; Kappa Sigma, W. L. Berst; Phi Delta Theta, W. A. Sawyer; Phi Gamma Delta, H. W. Scarlett; Sigma Chi, Paul Freeman.—*Old Penn.*

A Statue of Franklin.

THE Class of 1904 College of the University of Pennsylvania has decided to present to the University a bronze statue of Benjamin Franklin, to stand on the terrace in front of the new gymnasium, as a graduating gift to their Alma Mater. The statue is to cost $5000, and some time will probably elapse before all of the money can be raised. William Otto Miller, who was one of the honor men of his class, is at the head of the project.

Law Alumni Reunion.

THE fifty-third annual reunion of the Alumni of the Law Department of the University of Pennsylvania was held last evening in the Law School Building. The Honorable David Thompson Watson, of the Pittsburg Bar, upon whom the University conferred the degree of Doctor of Laws on February 22d last, was the guest of honor. At 8 o'clock he delivered an informal address before the students of the Law Department and members of the Alumni. His subject was "A Few Practical Suggestions."

After the address a reception was tendered to the distinguished Pittsburg attorney. Hon. Wm. B. Hanna, the president of the

Society, and a committee of seventy members of the Alumni, assisted in receiving the guests of the evening. The rotunda of the Law School Building, which is architecturally the most beautiful in the University group of buildings, was used for the reception and for entertaining the guests of the University. The rotunda was brilliantly illuminated and very tastefully and effectively decorated with greens and University colors. Palms, ferns, and flowers were in every nook and corner. Many of the familiar college songs of Old Penn were on the program which was rendered during the evening by an orchestra stationed on the intermediate landing of the grand staircase. About 800 members of the Society and members of the Philadelphia Bar attended the reception, and were entertained at an informal dinner, served in the north wing of the rotunda during the evening.

Photographic Records to be Kept of Athletes.

Dr. R. Tait McKenzie, Director of the Gymnasium, is having a suite of three rooms in the north tower of the Gymnasium Building fitted up as a photographic studio. Here photographs of students of the University will be taken, from time to time, during their four years at college. These pictures will form an accurate record of the gradual development of certain men for whom special courses are prescribed by Director McKenzie.

From a foreign correspondent we learn that George Benoit Levy, a popular lecturer in France, and the General Secretary of the City Gardens Association of France, frequently cites in his lectures the campus of the University of Pennsylvania, as an example of what may be done toward beautifying the grounds of educational institutions located in the centers of great cities. In his work on "City Gardens in the United States," Mr. Levy says: "The universities also would have wished to have their city gardens, and there is none more delightful and more perfect than those of the College of the University of Pennsylvania. . . . . The founder of the University was B. Franklin, but since the time of his death the University having been taken into the city of Philadelphia, it was decided about 1872 to transfer its location a little farther out and make of it a model center. It is, indeed, a real city garden, because people live in fine quarters, beautifully laid out around large grounds in excellent order, and social life is eagerly kept up by the many students' associations, the best known of them being devoted to baseball, rowing, etc., through which the University of Pennsylvania has earned a well-deserved fame."—*Old Penn.*

The Punch Bowl.

At a meeting of the Board of Editors of the *Punch Bowl*, on Monday, February 13, 1905, the following were elected editors for 1905-06: Editor-in-chief, Percy Van Dyke Shelly; managing editor, Alfred de Forest Snively; art editor, Frank Winthrop Reynolds; business editor, Wendell Phillips Raine.

Houston Club Election.

The annual election of the Houston Club of the University of Pennsylvania was held on Friday, April 4, 1905, with the following results: President, C. A. McCarey, '07 L; vice-president, Garfield W. Weede, '06 D; recording secretary, Thomas E. Rodman, '06 C. House committee: R. E. Lamberton, '06 C; J. G. Hendrie, '06 C; E. C. Rutchman, Philos; S. E. Rupp, Philos; R. B. Tobias, '06 L; F. H. Hobson, '07 L; George R. Moffitt, '06 M; W. W. Janney, '06 M; W. B. Greenburg, '06 D; N. E. Sprague, '07 D; G. W. Greenfield, '06 V; Thomas Kelley, '06 V. Membership committee: George Booth, '06 C; E. Mendenhall, '06 C; R. D. Hall, Philos; C. N. Laird, Philos; M. Townsend, '06 L; L. E. Johnson, '07 L; R. A. Keilty, '07 M; R. K. McConaghy, '08 M; L. R. James, '07 D; C. M. Oliver, '07 D; S. Lockett, '06 V; J. Reichel, '06 V. Library committee: E. K. Cortright, '06 C; L. Jones, Philos; D. E. Steckel, '07 L; L. C. Roberts, '08 M; S. Gleason, '06 D; G. M. Graybill, '07 V.

The club billiard handicap tournament of the athletic club of Philadelphia ended on Saturday evening, March 18, 1905. The winner was Dr. Walter E. Uffenheimer, who represented the Houston Club of the University of Pennsylvania.

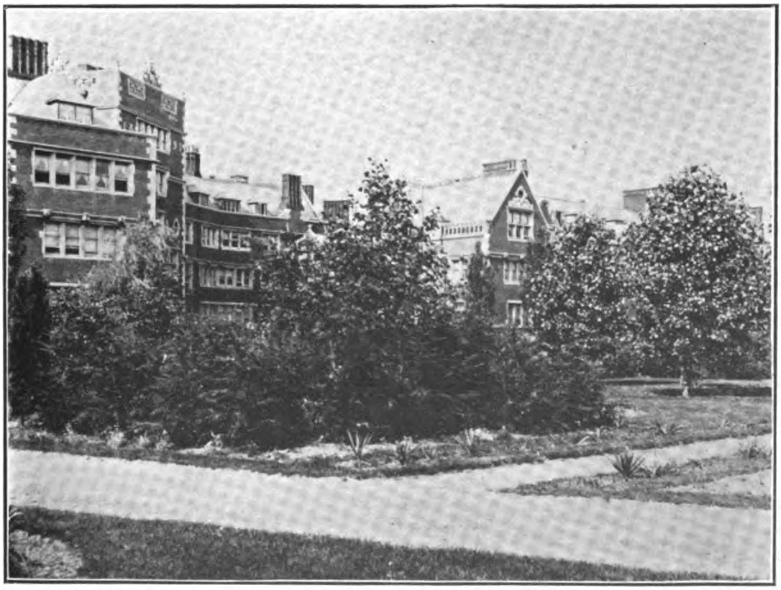
Dr. Uffenheimer graduated from the Dental Department of the University in 1900.

At the stated meeting of the trustees of the University, held on Tuesday, April 4, 1905, Mr. Arthur Latham Church, B.S., of the Class of 1878, University of Pennsylvania, was unanimously elected a member of the Board of Trustees. Dr. David L. Edsall was promoted to the rank of assistant professor of medicine, and Dr. R. Tait McKenzie was advanced to the rank of professor of physical education, with a seat in the medical faculty.

New Jersey Alumni Banquet.

The second annual banquet of the North Jersey Alumni was held at the Continental Hotel, Newark, N. J., on Saturday, April 1st. Among the speakers were Vice-Provost Smith, Dr. Kirk,

READING ROOM OF HOUSTON HALL.



DORMITORIES FROM HAMILTON WALK.

M. Reynolds, Dr. John L. Seward, '67 M; Dr. Richard S. Hopkins, '88 D, and William H. Parry, '99 C.

Dr. William C. Hanrahan, '02 D, was elected president of tl Association for the ensuing year.

THE fourth annual intercollegiate photographic exhibition between the Camera Club of Pennsylvania and the Harvard Camera Club was held in the reading room of Houston Hall.

The exhibition was very good on both sides, and the judges awarded the contest to Harvard only after close consideration.

THE annual meeting of the American Philosophical Society, of which Dr. Edgar F. Smith is president, was held in the hall of the Society in Independence Square, beginning April 12th. The ninth annual meeting of the American Academy of Political and Social Science was also held in Philadelphia, on April 7th and 8th.

ON Sunday morning, March 12th, Dr. Burris A. Jenkins, president of Kentucky University, preached in Houston Hall. Before the sermon Dr. Jenkins expressed his pleasure in addressing men of the University of Pennsylvania, having for a long time desired to personally convey the thanks of the people of the "Blue Grass Country" to the University, because it was from "Old Penn," the first medical college established in America, that the men came who founded the old Transylvania Medical College in Kentucky.

THE seventeenth annual production of the Mask and Wig Club, "Mr. Hamlet of Denmark," was the most successful in every way of the Mask and Wig entertainments.

To persons not acquainted with the facts, this annual cry of "the best ever" would seem to be caused by college pride, but to those who have followed the fortunes of this now famous organization, the assertion that each succeeding production eclipses its predecessor, is, with a very few exceptions, not an advertising joke, but a fact.

From the writer's view, the superiority of the present production was in the play itself, which was a very clever burlesque of Shakespeare's drama.

Provost Harrison's Annual Report.

THE report of Provost Harrison to the Board of Trustees of the University for the one hundred and forty-eighth year, which has been issued since our last number, contains facts of interest to all students and alumni of the University. Its progress during the last decade has been marvelous, and the Provost's report shows that this prosperity was greater during the year 1903-04 than during any other.

During the last fifteen years the total enrollment has increased from a little over 1000 students to over 3000; the college has increased from 429 students to 1490; the teaching staff from 178 to 325; the campus from 40 acres to 60; the number of buildings from 14 in 1890 to 68 in 1905, exclusive of the fraternity houses.

He states that the standard required and the results obtained from the average student are considerably higher than they formerly were. The standard for admission has been advanced, but it is the increased standard of the work in college after admission that makes the increase in the results obtained.

Speaking of the new gymnasium the Provost says: "All will have a chance for physical exercise. The feeble will be strengthened; the diffident will be encouraged; the unwilling, who do not realize that the body is a part of their personality, that its strength and soundness is vitally important for their intellectual and moral well-being, will be taught the lesson they so much need." In the appendix of the report there is a list of almost 400 books and articles covering various phases of philosophical, medical, legal, and scientific subjects. These books and articles were published during the year from August 31, 1903, to September 1, 1904, and represented the contributions of 114 members of the University faculty.

The gifts to the University and to the hospital during the year amounted to $612,807.15. The income from tuition fees was $331,414.72.

Debating at Pennsylvania.

A NOVELTY in intercollegiate debating was the first annual contest between the members of the triangular debating league, composed of Columbia, Cornell, and Pennsylvania. This league has been but recently organized, and gives promise of arousing considerable interest in intercollegiate debating. The way in which the debates are held is shown by the first meeting. For this debate the subject was:

"*Resolved,* That the Interstate Commerce Commission should be vested with authority, after full hearing of any formal complaint, to prescribe the maximum reasonable and equitable railroad rates to be substituted for those found unreasonable or discriminative; the order of the Commission, unless suspended by writ or injunction of a United States Circuit Court, to become operative at the expiration of thirty days' notice to the carrier, and to continue in force thereafter unless suspended by order of a Federal Court."

Three contests were held simultaneously, Pennsylvania taking the affirmative against Columbia in Philadelphia, and another team taking the negative against Cornell in Ithaca. In New York, Columbia took the affirmative against Cornell.

Each one of these contests drew a large crowd, and in each the arguments were well presented.

Pennsylvania lost to both Cornell and Columbia, and Cornell lost to Columbia in New York, Columbia thus winning two, Cornell winning one contest and losing the other, while Pennsylvania lost both debates.

This does not look good from a Pennsylvania standpoint, but a *résumé* of previous debates makes the score look better. Pennsylvania has had a series of debates with Cornell, Columbia, Michigan, and Virginia. These series stand as follows: Cornell won five, Pennsylvania won four; Columbia one, Pennsylvania two; Virginia one, Pennsylvania two; Michigan three, Pennsylvania one. This shows that this is the first debate Columbia has won from us, and until this contest was lost to Cornell that series was a tie.

During the year the team representing the Freshman Class met and defeated the Columbia Freshman team in Houston Hall, and the Freshman defeated the Sophomores in their annual debate.

The Philomatheon Society of the University was defeated by the Loganian Society of Haverford College.

Dr. Osler's Address.

Dr. Wm. Osler, who held the Chair of Clinical Medicine at the University from 1884 to 1889, and who has recently been called to England from Johns Hopkins as Regius Professor of Medicine at Oxford University, addressed an audience which completely filled the auditorium of Houston Hall.

The lecture was given under the auspices of the Stillé Medical Society, and cards of invitation were issued only to members of the Society, the faculty, and members of the Senior Medical Class.

Dr. Osler spoke of "The Student Life," and his address was a masterful one. Some of his remarks will apply to dental as well as to medical men.

He stated that every student upon graduation should begin at once to do three things, viz, collect a library, establish a laboratory, and start a nursery. He also spoke of the necessity of not permitting any lapse of time between graduation and the beginning of his life work. He spoke of the danger into which so many young doctors fall—committing mental suicide within a year after leaving college, and giving up all thought of careful and persistent study.

"Keep a notebook in which to set down your clear cases, your doubtful cases, and your mistakes, and play the game fair. Give yourself a quinquennial brain dusting. Every five years go back to the hospital. If possible, resist the temptation to open a sanitarium. Resist the temptation again to remove to a large city. It is the family doctor who does effective work. Associate yourself with a senior practitioner. I wish the latter practice were more common. No physician with a large practice can do his work well without an able assistant. Keep ever alive the student spirit, and thereby best fulfill the duties of your high calling."

The Stillé Medical Society of the University, under whose auspices the lecture of Dr. Osler was given, is the oldest medical society at the University of Pennsylvania. It was named after its patron, Dr. Alfred Stillé, who at that time was a professor of medicine and one of the most famous American physicians of his generation.

The University Christian Settlement.

No form of social activity undertaken by the Christian Association of the University appeals more to practical men, such as those of our Department, than the work of the Christian Settlement. Its workers are drawn from every class of every department of the University, without regard to social status, class standing, or religious belief, the only qualification necessary being a desire to help, in the wisest way, those less fortunately situated by education and environment.

The work was begun, in a very small way, some years since by a few earnest Christian students, who, recognizing the need for educational social Christian work among the youths and young men in the congested parts of the city, took up their residence in South street, just across the river, and gathering the young fellows of the neighborhood around them, started the work which has since grown to its present proportions. In connection with the general scheme of work, clubs have been organized in the crowded districts adjacent to the University, which provide warm and comfortable shelter during the chill winter evenings. The Boys' Club Building, situated at 2609 Lombard street, consists of three stories and a basement, and contains a large entertainment and music room, to which the kindness of a friend has contributed an excellent and much-appreciated piano, reading room, with a small library; game room, fitted up for various games, and several rooms devoted to class-work among the boys. The basement is used as a gymnasium, and basket-ball practice, boxing, and general gymnastic work are carried on during the winter. The Small Boys' Club, at 2601 Lombard street, is a duplicate, on a less elaborate scale, of the Boys' Club, and numbers among its attractions a carpenter's shop.

The boys have an excellent football team, and, coached by former Penn stars, last year closed a most successful season by winning every game on their schedule. The last game was played on Christmas Day in six inches of snow, and "The University Juniors," in spite of considerable difficulty in locating five-yard lines, achieved a well-earned victory.

Classes are held in printing, basket-weaving, and general educational subjects, and one of our Settlement boys is being coached with the hope of ultimately entering the University as a student. The government of the clubs is largely left to the boys themselves, who elect committees to regulate the internal affairs of the clubs, and even the smallest members of the Law and Order Committee enforce the rules in a way which must be of the greatest benefit in training them to become future citizens.

Thanks to the gift of $15,000 by Mr. Andrew Carnegie and the generosity of friends, the sum of $35,000 has been raised for a new and modern building on the site at present occupied, and its erection will shortly be begun.

Facilities for effective work will be greatly increased, and to cope with the work an augmented staff of student workers will be required. Mr. Weede, '06, the dental vice-president of the Christian Association, will be glad to meet any who can give a portion of their time next year, and those desiring to assist financially will have an opportunity at the annual canvass now being made by representatives of the various classes.

The JOURNAL heartily commends to every man with a kindly thought for those less fortunately situated than himself the unselfish, practical, and profitable work of the University Christian Settlement.

The Chess Club.

THE one club that ranks with the football team in its successful competitions with its rivals is the University Chess Club, and its work well deserves a review in these columns. In a series of games with the different clubs of the Philadelphia Chess League, the University Club easily won first honors. Next, in the annual contest in the three-cornered league consisting of Cornell, Brown, and

Pennsylvania, the University team again won. The last important match was with Princeton, and this was won by the score of 8½ to 1½. As Harvard beat Yale only 5½ to 4½ points, and Yale could only beat Princeton by the score of 5½ to 4½, a comparison would show Pennsylvania to be considerably superior to Harvard, which team won the contest in the Quadrangular League, consisting of Harvard, Yale, Princeton, and Columbia.

Sporting Notes.

. ATHLETICS, as a whole, have probably never been worked up to such a pitch as we find them this spring. Track, baseball, rowing, and lacrosse, without an exception, are more popular than ever.

The outlook for track athletics this year is much brighter than a few years past. At the first call for candidates last September a goodly number reported for practice. With this lot of husky men, Dr. Shell started his system of training, by which he is developing the old as well as new men into intercollegiate form.

The usual fall games were held and proved very encouraging in the track events, but the field events were far below the average. The reason for this weakness we cannot explain. As we always look to the football men to handle the weights, it certainly reflects upon either their being weak or afraid to compete against such well-known men as Coe, Shevelin, and Schoenfuss. Captain Boyd is the only man to hold up Pennsylvania's honor in weight events, and we thank him one and all. Certainly something ought to be done to bring these big fellows out, as nearly all the football stars, past and present, are handy with the weights.

These men have no excuse to offer, as track team work takes very little time, and no man can say he does not waste twice that amount each day necessary for development in these events.

The Relay carnival held in April is probably the best means we have of judging the outlook for the intercollegiates to be held the latter part of this month. As usual, Yale showed up strong in most of the events entered. Harvard not entering, leaves us somewhat in the dark as to their strength, but we may be assured that if they had any promising material they would have entered it. Our chances for at least second place are exceedingly bright after the showing of the 29th of April.

Dear will make Schick run under even time in the 100-yard dash, while Hyman and Taylor are good for a couple of places in the quarter, and Amsler looks like a winner in the hurdles.

In the high jump we are certain to count with Moffet jumping six feet, while Green and Weede may add a few more in the broad jump. From the Department, Weede, '06; Hoskins, '06; MacDonald, '05; and Davies, '06, are doing good work.

The baseball team this year has been greatly handicapped by the green material that Coach Coogan has had to round up. The team work as well as the individual head work has been somewhat lacking, due, no doubt, to the inexperience of the majority of the team in 'Varsity company. At the beginning of the season the boys seemed to hit the ball quite consistently, but of late the batting has fallen off to some extent. The prospect for next year's team is quite bright, inasmuch as most of this year's team will be back, and with one year's experience ought to round up into good form. As usual, the Department has their representatives on the squad in Hay, '06, and Lockwood, '05.

Although the crew was beaten by Annapolis, we hope that when the 28th of June comes Penn will be well to the front. Coach Ward has been very much handicapped by lack of material, but he is a man who will get all out of whatever he has at hand.

Stevenson, '05, is occupying a seat in the first boat.

The Department has the distinction of furnishing the captain of the lacrosse team in Campbell, '05, while Craver, '05, and Harrower, '05, are doing good work on the team.

In the intercollegiate wrestling matches held in April, Craver, '05, represented the University in the light-weight class, while in the swimming pool Cowlishaw, '05; Coe, '05, and Molle, '05, are doing their share of work.

OBITUARY.

Death of Gilbert Haven Wood.

In the midst of our preparation for the trials of the examination period, we pause to do reverence to one who, only a few weeks since, was a fellow-student; for the news has come that Gilbert Wood is no more. He died at the Presbyterian Hospital at 12.15 o'clock on the morning of Wednesday, May 10th; and there is none of those who knew him who will hesitate to do him reverence. He was a true son of his clergyman father. His bright greeting and ever ready sympathy created an indelible impression of kindliness.

Gilbert Haven Wood was born at Gordon, Pa., November 10, 1882. His preparatory education was received at the Kirwinville, Pa., High School and the Dickinson Seminary, at Williamsport, Pa.

He began the study of dentistry at the University of Southern California, but transferred to the University of Pennsylvania for his second and third years.

While at Pennsylvania he became a member of the Christian Association, of Delta Sigma Delta, of the University Glee Club, and of the James Truman Society, of which last he was secretary.

He was well equipped and almost ready to take up the professional life for which he was fitting. It seems unfortunate that the world should be denied one so good in his chosen profession and his Christian life, when so many of those who survive are deficient, professionally and morally, but—

"God hath his mysteries of grace,
Ways that we cannot tell;
He hides them deep, like the hidden sleep
Of him he loved so well."

Resolutions of Respect.

At a special meeting of the Class of 1905, of the Department of Dentistry of the University of Pennsylvania, held on May 10, 1905, the following resolutions were authorized:

WHEREAS, Divine Providence has seen fit to remove from our midst our much-esteemed friend and fellow-classmate, Gilbert H. Wood; be it hereby

Resolved, That it is with the deepest regret that we learn of the death of our brother student, and we extend to his parents and relatives our heartfelt sympathy, in their hour of sorrow and bereavement.

We realize that while we have lost a dear friend, a man of noble character and high possibilities, how much greater must the loss be to those of kindred ties, and we commend them to seek comfort in Him who is able to sustain them in their hour of grief.

Resolved, That a copy of these resolutions be sent to his parents, that the same be recorded in our minutes and be published in the next issue of the PENN DENTAL JOURNAL.

WHITMAN GEORGE FERRIN,
JESSE FRANK COOPER,
ARTHUR S. SANDSTEIN,
Committee.

At a special meeting of the James Truman Dental Society, the following resolutions were drawn:

WHEREAS, The Almighty, who in his mercy and wisdom hath so ordered that our beloved companion and fellow-member, Gilbert H. Wood, should be taken from us; be it therefore

Resolved, That we, his fellow-members of the James Truman Dental Society, have lost a worthy member, an ardent worker, and a faithful officer;

Resolved, That with all subservience to the will of our Creator, we none the less mourn the great loss of our friend and fellow-member, and extend to his family our deepest sympathy and heartfelt condolences.

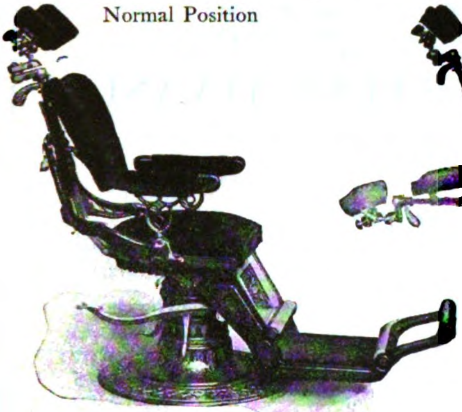
Resolved, That a copy of these resolutions be sent to the family of our deceased friend; that they be recorded in the minutes of this Society, and published in the PENN DENTAL JOURNAL.

WILLIAM GLADDEN COOK,
ARTHUR S. SANDSTEIN,
EDWARD EVAN-JONES,
Committee.

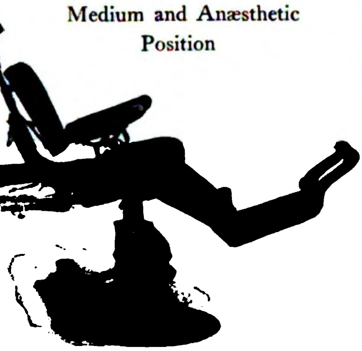
IMPORTANT REDUCTION

THE SIBLEY CHAIRS

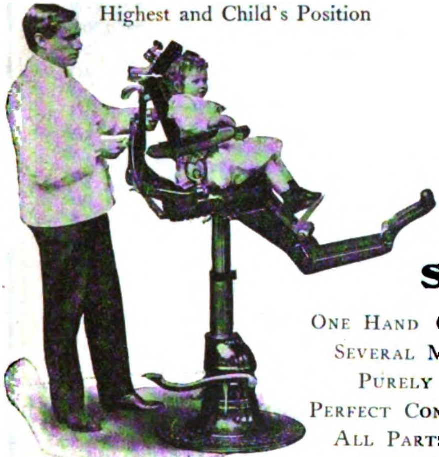
Normal Position



Medium and Anæsthetic Position



Highest and Child's Position



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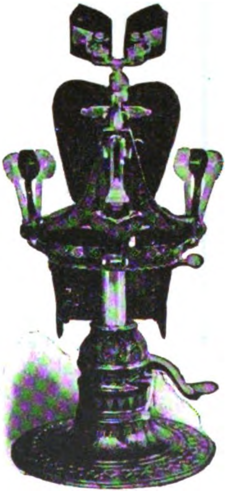

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1 Melotte Blowpipe	3 00
1 Plate Burnisher No. 1	45
1 Crown Hammer, Lane's	85
1 Peeso Collar Pliers No. 118	1 00
1 Pin Roughening and Bending Pliers No. 127	2 00
1 Peeso Stretching and Contouring Pliers No. 130	2 25
1 Crown Scissors No. 10	1 00
1 Crown Scissors No. 11, Curved	1 00
1 Pin Vise No. 4	50
1 Die Plate	2 00
1 Impression Tray No. 43	20
1 Peeso Spatula	40
1 Solder Tweezer, "L"	30
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1 Solder Tongues, 9-inch	50
1 Stick Rouge	10
1 Chamois Wheel, 2½-inch	30
1 Moldine Outfit	1 00
1 Stick Calcined Borax	15
1 Carborundum Wheel No. 13, Grit "A," Mounted	40
1 Carborundum Wheel No. 20, Grit "E," Mounted	45
1 Carborundum Wheel No. 33, Grit "C," Mounted	32
1 Metal File, Half-Round, 2½-inch, No. 6 Cut	26
1 Metal File, Flat, 5-inch, No. 6 Cut	50
1 Metal File, Flat, 5-inch, No. 2 Cut	43
	$20 46

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Octangular Hand-Piece

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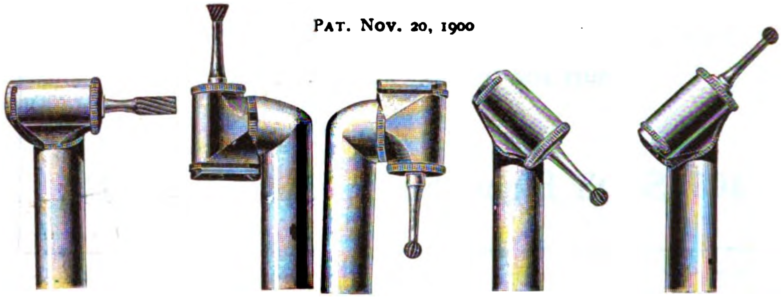

Fig. 1.—For Slip Joint Connection.

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Fig. 3.—For Doriot Hand-piece.

This is the outcome of over 20 years' experience in the manufacture of Dental Instruments, and was originally perfected after months of diligent effort on the part of a skilled mechanic.

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The Justi "Detachable Pin" Crown

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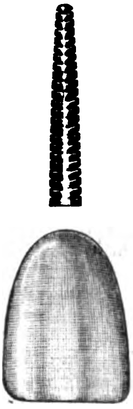

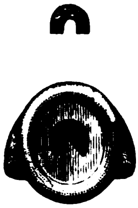

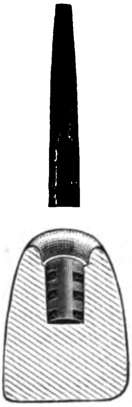

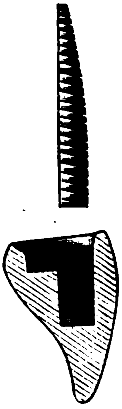

This crown is submitted to the Dental Profession with the utmost confidence that it will prove superior to all others.

It has all the admitted advantages of the detached pin crown without any of the objections.

RIGIDITY The shape, both of the cavity or recess in the Crown and of the base of the pin, cause the pin to be held rigidly; it can neither twist nor tilt.

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The essential elements which have made the S. S. White Engine for more than thirty years the most popular foot-power engine before the dental profession are accentuated in the improved form herewith presented.

The cable arm is improved by the adoption of a reinforced sheath which, while in nowise diminishing the flexibility of the arm, dispenses with the need for a special support.

The foot-power is improved in several respects: The side-wheel construction with the wheel dished so that its weight is centered in line with the upright is retained because of its advantages, which are further enhanced by modifications of design.

1st. The driving-wheel frame instead of being curved at the hub is straight, and the hub or bearing for the crank-shaft is formed wholly on one side.

2d. The treadle is placed at the left side of the long foot of the base, as affording greater facility of use. It is also hinged a little further forward, affording a more natural movement to the foot in operating it.

3d. The pitman is of a different construction, which contributes to greater smoothness of operation.

The base is a tripod of graceful design having a firm seat on the floor. The bottom of the driving-wheel frame has a square-edged spline which fits a corresponding groove in the center of the tripod, and the two are bolted firmly together by a screw bolt passing from underneath the tripod well up into the frame.

The castings—tripod, frame, treadle, and driving-wheel—are finely made, and handsomely japanned and ornamented.

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In a word, the new form is a perfected Cable Engine, one which we have no doubt will please every operator who uses it, even more than those we have previously made.

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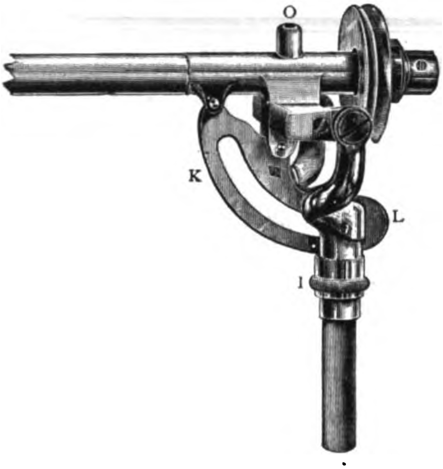

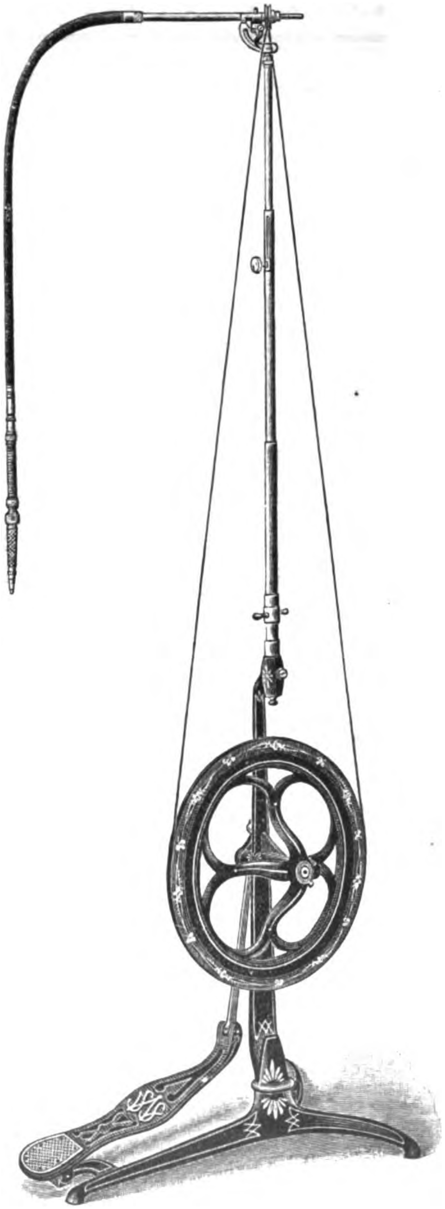

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It utilizes the most valuable features of both the Doriot and the Weber-Perry engines with the effectiveness resulting from the combination greatly enhanced by modifications and new devices of simpler design.

In the foot-power, a side-wheel construction, identical with that of the new S. S. White Cable Engine, has been introduced.

The upright, head, and arm are of simpler construction than in either of the older engines. The head can be instantly raised or lowered or rotated with one hand operating a thumb-screw to adjust the tension of the belt or to change the position of the head. When the head is set in any desired position, a spring automatically returns it when released, carrying the arm out of the way of the operator.

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A telescoping section of the upper arm and a compensating spring automatically keep the tension of the belt uniform. The wrist-joint, which has almost the suppleness of the human wrist, is so constructed that it cannot become locked in use.

Compensating pulleys at the head, elbow, and wrist carry a continuous belt from driving-wheel to handpiece spindle.

The S. S. White Belt Engine is beautifully smooth-running, because of its simple construction and fine workmanship.

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S. S. White Belt Engine equipped with No. 7 Handpiece and Slip-Joint	$58.00
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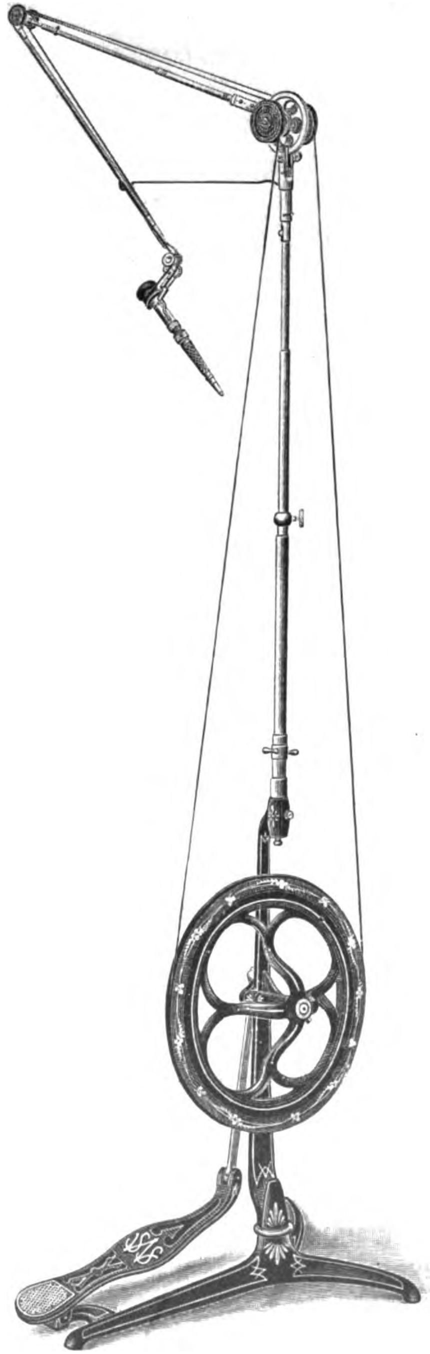

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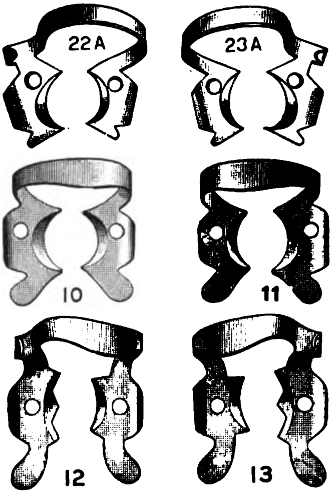

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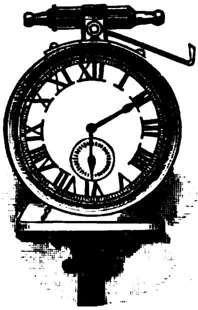

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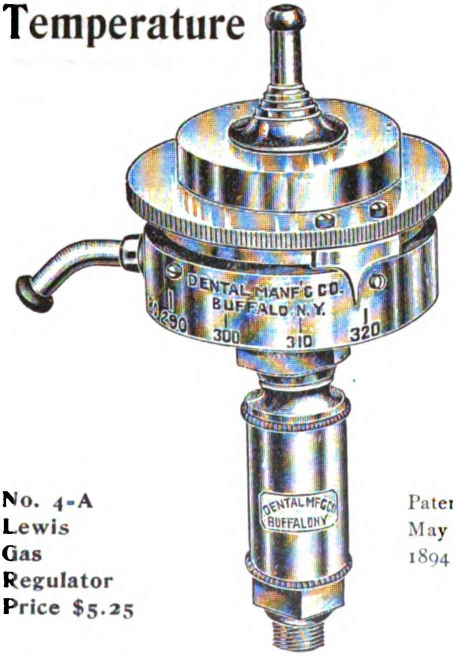

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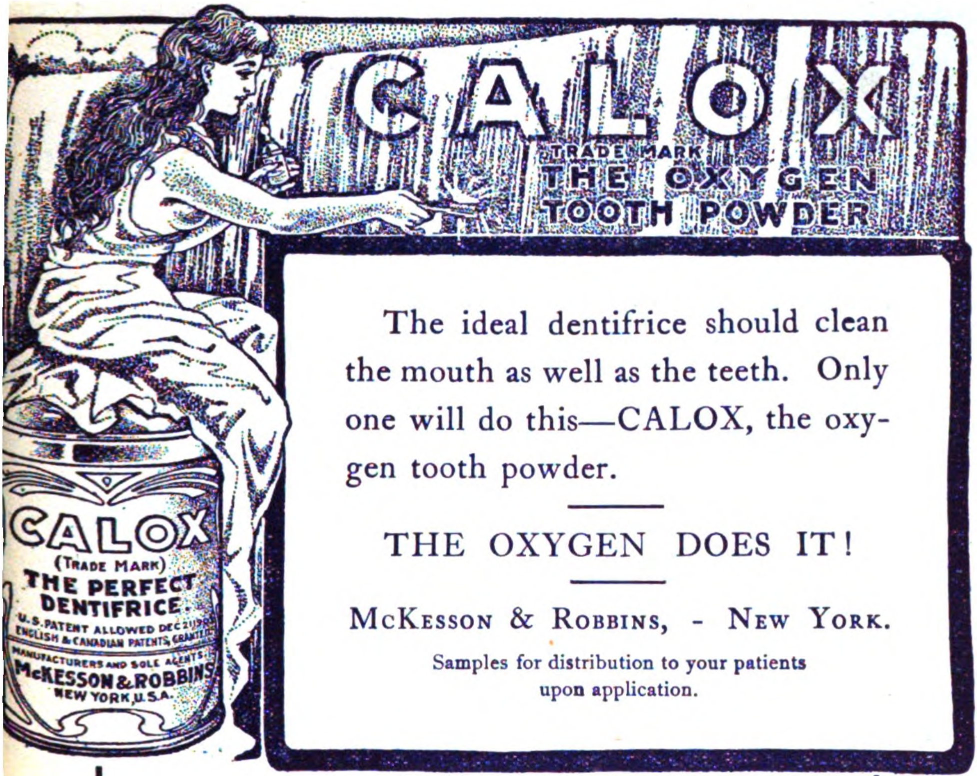

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THE
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THE PENN DENTAL JOURNAL.

Vol. IX. NOVEMBER, 1905. No. 1

COMMUNICATIONS.

A Suggestion on Banded Crowns.

BY W. B. CRANE, '05.

WHEN the all-wise Creator breathed into man the breath of life and placed him in this world, to live, move, and have his being, he imparted to his progeny the five special senses. On the sense of feeling thrives our profession, likewise our unpopularity with our fellow man.

The human dental apparatus is an intricate proposition, succumbing to Nature's law: "Where there is wear there is tear." The hard as well as the soft tissues are unmercifully ravaged by bacteria, and must be replaced at times by gold, silver, or porcelain, and in extreme, yet frequent cases, by crowns and bridges.

Dentistry is an ancient art but recently developed, and in its evolution rapid strides have been made to eliminate pain in all operations; yet many questions are unsolved; many branches imperfect. Crown and bridge work is excruciatingly painful; a relic of mediæval torture. The operation of adapting bands to roots is perhaps the most painful technic in this department of dental prosthesis.

The wire measurement causes great discomfort, and if it be repeated the mental as well as the physical sufferings are great; and yet this is not all the discomfort to which our patients must submit.

The band must be contoured, and adapted at times by means of a small-sized hammer, and a very skilful person he is who can do this at one trial.

The floor must then be made, pin inserted, cap removed, soldered, and placed on root again before taking impression. Thus, we see, the patient must submit to the adaptation, the cap ready for pin, and the cap with pin for the impression.

These steps are calculated as minimum for the experienced operator. How many trials does the average dentist make?

This method is so distressing as to cause much complaint, and as a consequence the writer wishes to offer or suggest a procedure which can be followed with little or no pain—one which eliminates wire measurement, the hammer in adapting the band, the removal for soldering the pin, the danger of burning, and last, but not least, the crown may be made of a uniform karat of gold, and all done at one soldering.

It is the writer's purpose to suppose we are crowning a superior incisor with the Richmond or other banded crown. No change in root preparation is suggested, yet the gums may be slightly massaged with a solution of cocain to alleviate pain while trimming the root.

The root is trimmed, thoroughly dried, and ground to required length. A narrow band is made, of extra thick inlay platinum, to fit over root and then contoured.

The band is straightened, and contoured margin is then folded upon itself, about 1-32 of an inch, and tightly pressed together. When folded, the strip is again formed into a band and placed on the root, to which it is burnished beneath the free margin of the gum. The margin of the band projecting beyond the trimmed root is lapped over and burnished to the surface, thus forming a delicate platinum cap of perfect adaptation. The pin may then be pressed through the cap and held in place by cement, gutta-percha, or any suitable material convenient to the operator.

This obviously eliminates the various steps before mentioned, thereby hastening the operation.

The impression is taken, model obtained in investment material, and articulated in usual manner.

In backing the facing there is some little variation. The backing is made of platinum, and should be allowed to extend all around the margins of the facing, especially at the cervical border. The backed facing is then waxed up.

The model is trimmed to expose the band, the overlapping margin is then straightened, and a thin film of wax run around the band. In the labial aspect a strip of platinum is adhered to the wax, approximating the projecting backing and the turned up margin of the band. The piece is then invested and the wax boiled out.

In soldering, the band should first be covered. The solder will flow on the band to the turned up margin, thence into the labial portion, and held by the platinum contour placed there previous to investment. The crown is then trimmed, polished, and ready for mounting, possessing perfect adaptation if properly made.

The advantages of this crown are obvious.

First, it is comparatively painless.

Second, it takes less time.

Third, no danger of burning.

Fourth, if properly worked, the adaptation is perfect and contour of band better.

Fifth, it is all done in one soldering and is of uniform metal of higher karat than the ordinary crown.

For bridge work these advantages are greatly appreciated.

In closing this paper I wish to state that this subject is not original with me, but was suggested by Dr. F. J. Ebert.

Theory is necessary, yet when it fails in practice it is rubbish.

This crown has been given a trial by its originator in actual practice, and brought from the uncertainty of probability into the realm of fact.

Empyema of the Antrum.

REPORTED BY G. M. CROW, '01.

Miss C—— came under my notice in January of this year, complaining of a dull pain on the right side of her face in the antral region.

History.—The patient had been under treatment for nasal and ear trouble for a number of years, and was subject to neuralgic pains and headaches.

About four years ago she had had an abscess at the apex of the superior right bicuspid.

This abscess had caused her much trouble and resulted in the ultimate loss of the tooth.

Ever since the extraction of the tooth, and especially for three or four months previous to her coming under my notice, she had experienced pain and fullness in the antral region, especially at night while in a recumbent position.

Her sleep was not restful and she would unconsciously turn on her left side, thus relieving the pain.

Diagnosis.—I found by thorough examination all the teeth on the right side, both superior and inferior, to be quite sound and free from caries, with the exception of the superior right second bicuspid.

This tooth had been filled a number of years ago with a cement filling, the nerve having been extirpated, and the canal filled with oxychlorid.

The tooth was quite sore to the touch and loose in its socket.

I thought the trouble might be due to a pencemental abscess or alveolar abscess at the apex of the root, because of the soreness and mobility, but there was no redness or swelling of the gums, which should have been present.

I was suspicious of antral trouble from the history of the case, and the apparent symptoms, namely fullness and redness of right side of face. The right eye was also slightly swollen and red, there being a constant presence of tears to a greater or less degree.

Treatment.—I felt justified in removing the cement filling and opening up the canal.

In doing this the rubber dam was first adjusted and every possible means were taken to assure antisepsis of the part.

After much difficulty the oxyphosphate and oxychlorid were removed, entirely by hand drills and canal reamers.

When I reached the apex I took a new smooth broach, rather blunt at the end, and passed through the apical foramen. It met with no resistance whatever, and passed so far as to quite convince me it had entered the antrum.

Packing the canal loosely with cotton I dismissed the patient until the following day, when I had Dr. Cryer and Dr. Swing examine the case. Both diagnosed "*Antral Empyema.*" and Dr. Cryer immediately removed the tooth and enlarged the socket with a surgical engine, so as to more thoroughly treat the part. He then syringed out the socket and antrum with warm water, followed by *phénol sodique.*

The water flowed out of the anterior naris accompanied by much pus.

Dr. Cryer instructed me to see the patient every day and to wash the parts with warm water to remove what pus might be present, and then to use a weak solution of *capsici et myrrha.*

At the first treatment it was quite difficult to force the fluid through, there seeming to be some growth that obstructed the passage of the fluid from the antrum into the middle meatus.

The following day during the treatment a polypus was dislodged, probably from the antrum in the region of the osteo-maxillare opening. After this growth was removed, little difficulty was experienced in thoroughly cleansing the antrum.

I pursued this treatment daily until about the first of March, when at Dr. Cryer's suggestion I resorted to simply warm water.

During this time a few drops of Tr. Iodin was tried, but it was found to be too irritating.

The treatment was slow and at times very discouraging, both to the patient and myself, but she experienced much relief from pain, although at intervals there was a great amount of pus.

As the patient showed improvement I had her come every other day, and as the pus disappeared I made weekly treatments.

By the first of April almost all signs of pus had disappeared, and on the twentieth Dr. Cryer told me I might dismiss the patient, he being quite satisfied it was cured.

Orthodontia.

JEFFERSON THOMAS DILLARD, '05.

[Read before the Edwin T. Darby Dental Society.]

It may be truthfully stated that orthodontia receives generally less attention than any other branch of dental science, the probable causes being the great length of time needed for the acquirement of sufficient knowledge and skill to make this line of work a practical success.

The purpose of your essayist, therefore, is to make a plea for a more general consideration of this very important part of dentistry, rather than attempt to impart any new ideas.

Orthodontia, *per se,* until very recent years has been manifested in the most primitive forms, and its field for development is so vast and its possibilities so great that a comparatively small number in the profession are beginning to make it a specialty and excluding all other kinds of work.

The primary object in the regulation of teeth is to bring about a normal occlusion, and, as a secondary consideration, to restore facial contour.

To look upon a denture of great irregularity leads one to believe that to bring about regularity and normal occlusion would be an extremely difficult procedure, but when the limited number of "movable directions" of any particular tooth is taken into consideration, it is at once apparent that the procedure is almost purely a mechanical one, and is not as difficult as was at first supposed.

For purposes of regulation teeth are moved in one or more of the following directions, viz.:

(a) Laterally.
(b) Antero-Posteriorly.
(c) Postero-Anteriorly.
(d) Downward.
(e) Upward.

The last two depend on whether the teeth to be moved are in the upper or lower jaw.

The most difficult part of regulating, as a rule, is the manufacture of an appliance which will accomplish the desired results, and to do this in any given case, it is necessary to study each individual tooth which is to be moved in order to determine the kind of appliance needed to accomplish the desired result.

When the kind of appliance for the one tooth is decided upon, the other teeth should be studied separately in a like manner until appliances have been planned for all the teeth which the operator desires to regulate.

The object of studying each tooth separately is to simplify the manufacture of the appliance, and this is accomplished by combining the appliances for the individual teeth into one fixture.

The appliance should be made to do as much of the work as possible, thus reducing the number of appliances for each case to the minimum.

A good example of this is the expansion arch, which appliance can be made to move practically every tooth in the jaw, for the reason that they are to be moved in one direction, viz., outward.

This same appliance can be arranged in such a manner that teeth can be moved in opposite directions.

After the appliance is completed it is necessary to cement it in place to prevent unnecessary movements.

When the regulation process is commenced, the precaution should be taken not to attempt to move the teeth too hastily, as pericemental troubles, death of the pulp, fracture of the enamel, or permanent enlargement of the alveoli may result.

The etiology for irregularities in individual teeth, considered singly, are so varied that chapters could be written on this interesting subject alone, therefore, it would be useless to try to do justice to it in a paper of this character.

The treatment indicated for irregular teeth would, of course, be to restore normal occlusion and general regularity in the arch.

When restoration is completed casts should be made of the two jaws, which, with the original casts, will serve not only as records of what has been accomplished, but as valuable specimens.

The youngest age at which regulation can be accomplished is when anchorage of the appliance can be attained, and after twenty-five or thirty years of age, regulation becomes more difficult, in direct proportion as age advances.

If we are called upon to regulate a case of pronounced protrusion of the lower jaw, in which condition the features of the face would naturally be distorted, and we were to successfully restore facial contour and normal occlusion, would not our accomplishments be greater than those of the dentist who confines his work to gold and amalgam fillings, crowns and bridges, and vulcanite plates?

The actual amount of good which is accomplished by successful orthodontia probably surpasses that of any other branch of dentistry.

It is the scientific dentist of today whose reputation stands the highest and the greater his reputation is the greater will his compensation be.

Dr. Oliver Wendell Holmes' Appreciation of Dentistry.

It is generally known that Dr. Oliver Wendell Holmes was Professor of Anatomy at Harvard, but that the poet-physician had a marked interest in dentistry may not be so well known. He made a notable address on "The Claims of Dentistry" before the first dental class graduated from Harvard. The following sentiment in a letter of regret from Dr. Holmes was read at a dinner of the New York Odontological Society.

"I often think of the forlorn condition of some of the great personages of history in the days when there were no dentists, or none who would be recognized as such by the dental artists of today. I think of poor King David, a worn out man at seventy, probably without teeth and certainly without spectacles. Think of poor George Washington, his teeth always ready to drop like a portcullis and cut a sentence in two. See him in Stuart's admirable portrait, his thoughts evidently divided between the cares of empire and the maintenance of the *status in quo* of his terrific dental arrangements. Think of Walter Savage Landor's melancholy complaint that he did not mind losing his intellectual faculties, but the loss of his teeth he felt to be a very great calamity. I will venture to propose then, the Dental Profession, and this Association as its worthy representative. It has established and prolonged the reign of beauty; it has added to the charms of social intercourse, and lent perfection to the accents of eloquence; it has taken from old age its most unwelcome feature, and lengthened enjoyable human life far beyond the limit of years when the toothless and poor blind patriarch might well exclaim, 'I have no pleasure in them.'"

PRACTICAL SUGGESTIONS.

Antiseptic Cavity Varnish.—Gum copal, dissolved in ether, alcohol, or chloroform, to which is added 10 per cent. hydronaphthol, forms an adhesive and antiseptic cavity varnish of great merit.—B. L. THORPE, *Western Dental Journal.*

To Prevent Expansion of Plaster in Setting.—If slacked lime is added to boiling water and the clear liquid decanted for use in mixing plaster of Paris, the plaster will not expand.—P. C. McCULLOUGH, *International Dental Journal.*

Be Honest to Children.—Never lie to a child, for the child of today is the man or woman of tomorrow.—MARK G. McELHINNEY, *Dental Review.*

Tobacco and Alcohol.—The dentist who persists in the use of alcohol and tobacco during office hours signs a mortgage to the devil of failure and should not complain if his patients wander away to more capable men.—MARK G. McELHINNEY, *Dental Review.*

The "Odontagogon Law."—The skilful operator extracts more teeth with elevators than he does with forceps, for nearly every tooth that may be grasped by forceps may be saved.—*Exchange.*

Burns.—Washing soda is found in every house, and a saturated solution of this substance allays the pain of burns probably better than any other immediate application.—*Carolina Med. Journal.*

To Prevent Warpage of Plates.—When polishing a thin rubber or gutta-percha plate, fill it with plaster before putting it on the polishing lathe, first filling the undercuts with wax.—*Tri-State Dental Quarterly.*

To Protect Inlays from Moisture After Setting.—To prevent moisture reaching the inlay after seating it in place, cover with the surplus cement and firmly press a piece of tin foil over the whole. This will adhere for hours and is of course absolutely impervious to moisture.—C. B. ROHLAND, *Dental Review.*

"Fusing of Platinum Solder"—A Caution.—In the October 1904 issue of the *Cosmos,* in your "Periscope" department, at page 885, you quote from R. J. Husband, *Dominion Dental Journal,* under the above caption, this very simple method for fusing platinum solder, etc.: Simply attach your gas cylinder (N_2O) to the air nozzle of the blowpipe and go ahead! Please tell your readers *not* to attach N_2O to a *gasoline* blowpipe outfit. I tried it today, and just why I am able to write about it is a mystery, after the explosion I had!—but "bust" she did, and I don't propose to mix N_2O with gasoline any more—never!—H. H. GANTZ, *Dental Cosmos.*

Cavity Preparation: Inlays and Fillings.—The one distinctive feature to bear in mind always is that a cavity for a filling should be of such a form that the filling when inserted cannot be lifted out of it, while the requisite of a cavity for an inlay is that the completed inlay may be inserted and removed at will.—C. N. JOHNSON, *Dental Cosmos.*

Neuralgia or Muscular Pain.—Guaiacol mixed with an equal part of glycerin and applied over the seat of neuralgia or muscular pain will often give quick relief.—*Medical Summary.*

Celluloid Cement.—For making celluloid cement for mending casts, dissolve the celluloid in acetone, as it is better than ether and alcohol. This cement may be profitably used in place of collodion on wounds, etc., like court plaster, to protect from the air. —Dr. J. DOUGLAS, *Dental Review.*

A Good Local Anesthetic.—All operations in the mouth should be preceded by the application of a local anesthetic. Nothing acts so nicely as two per cent. finely-powdered cocain added to one ounce of *original package Campho-Phenique.* This produces a saturated solution which, when applied on a large-sized pledget of cotton, completely obtunds local sensation and prevents pain incident to removing calculus, polishing teeth, wedging, removing loose roots, and prevents gagging and nausea in taking impressions, applying the dam and ligating the same.—BURTON LEE THORPE, *Brief.*

Pyorrhœa Precautions.—As soon as a case comes under my care I insist upon a discontinuance of the use of coffee or alcoholic stimulants, because they retard the elimination of waste material. Also the patient must not use any dentifrice or soap that is of an alkaline nature.—L. G. MITCHELL, *Western Dental Journal.*

Holding the Rubber Dam in Place.—After reading in the Practical Hints department of the *Review* the different methods of holding the rubber dam in place I would like to give my method, and perhaps it might be of assistance to some of the readers. After passing the ligature around the last tooth which the dam involves, I place a small pellet of cotton under the ligature and then draw it tight and tie it. It will be effectual in keeping the rubber from slipping. Having practiced this method for a year and a half I feel confident of its success, for I have not had a case yet where it failed.—W. J. HEMPHILL, *Dental Review.*

Abscess Treatment.—A prolific source of septic pericementitis is escaping micro-organisms and ptomaines from putrescent root-canals, but in many instances abscesses may be prevented by the use of proper remedies at the proper time. The first duty is to open the canal, and let the confined gases escape. Both the tooth and the infected peridental membrane require treatment. To aid nature in readjusting the abnormal condition the following prescription will prove useful:

℞—Potass. iodidi,	ʒj;
Syrupi sarsaparillæ comp.,	f℥iij. M.

Sig.—Take a teaspoonful three times a day after meals.

The teaspoonful may be added to half a wineglassful of water to further dilute the potassium iodid.—J. P. BUCKLEY, *Dental Review.*

Treatment of Sensitiveness at the Apex.—To overcome sensitiveness so often found at the ends of root-canals the pulps of which have been devitalized, pump the canals full of eucalyptol and proceed cautiously to the ends. I have often found this treatment effective in cases of sensitiveness following extirpation under pressure anesthesia. It is, however, more effective in cleansing roots after arsenical applications.—R. E. Sparks, *Dental Review.*

Ptyalism.—For tender, bleeding gums from any cause, associated with fetid breath:

℞—Formaldehyd (40 per cent. sol.),	ʒj;
Thymoli,	gr. x;
Tincturæ benzoini compositæ,	ʒij;
Alcohol,	q. s. ad ℥iij. M.

Sig.—Teaspoonful in wineglass of water as a mouth-wash, every two or three hours.—*Medical News.*

Retention of Fillings in Weak Teeth.—When the tooth has been so weakened by decay that there is not sufficient sound tooth-structure in which to anchor the filling, the cavity may be lined with soft cement and the filling built into it while still in the plastic state, depending upon the cohesive properties of the cement to retain the filling. But it is only in such cases that this method of anchorage should be resorted to.—J. F. Wallace, *Dental Era.*

A Hint on Gold Inlay Making.—Burnish a platinum matrix as for a porcelain inlay, paying no heed to small openings in the platinum. Paint the surface of the matrix that comes in contact with the tooth to be restored, and all parts not intended to be covered with gold and where the matrix extends beyond the margins, with a thin mixture of prepared chalk and water. The matrix is now filled with the required karat of gold and the gold fused, using no flux. The gold will not flow beyond the margins. Set small inlays before removing the surplus matrix and allow the cement to set before finishing.—F. D. Stephan, *Dental Review.*

Practical Hints.—An excellent tool for trimming around plain teeth in vulcanite work may be made from a broken Gates-Glidden drill by sharpening it to a long, thin point. With it the gums may be festooned and all particles of vulcanite be removed from between the teeth.

A small brush wheel with a single row of moderately stiff bristles is excellent for polishing.

Treatment of Gingivitis.—The following combinations are recommended in the treatment of gingivitis:

℞—Salol,	**gr. xvj;**
Tinct. catechu,	**ʒj;**
Spts. menth. pep.,	**ʒx. M.**

Sig.—One teaspoonful in half a glass of warm water as a mouth-wash.

Or:

℞—Acidi carbol.,	
Pot. chloratis,	**āā gr. xx;**
Syrupi simp.,	**℥j;**
Aq. camphoræ,	**℥iij. M.**

Sig.—One dessertspoonful as a mouth-wash, diluted in half a glass of water.—*Journal of the American Medical Association.*

EDITORIAL.

Why are We Here?

If this question were put to each student in the Department it is doubtful if any two answers would be exactly the same. Of course, the natural supposition is that we are here to fit ourselves for the intelligent practice of dentistry, and this is doubtless the case with nearly every student, but it may be well to take a glance into the underlying motives which brought us here. A few probably came merely to see a bit of college life, others for athletic honors, but these are exceptions. The great majority are here, as we have intimated, to study dentistry as the foundation for their life work.

When a man takes up a question which involves his whole future career, which determines his success, usefulness, and happiness, it is a serious matter, in fact the most important step of his life, and requires his most careful consideration.

This, however, is but one side of the question. Why are we at this particular institution?

Many of us, particularly the foreign students, could have taken a course in dentistry much nearer home. But, as already stated, the question demands much thought, and it seems to us that the decision to come here is only a logical conclusion of a correct process of reasoning. Our view of the matter is laconically expressed by the remarks of a student who recently transferred from another dental college. To a friend he said, "I am tickled to death to think I came here. The place is clean and up-to-date; the students are the finest lot of fellows I ever saw; the lectures and practical work are just what we need, and we are treated like gentlemen. I only wish I had come here in the first place."

We want to become dentists in the highest and fullest sense. We want to be useful and intelligent citizens of the community in which we practice. To accomplish this requires our best efforts while here. It has been said that "Everything comes to him who waits," and this is true of dentistry, provided he works as hard and as fast as he can while waiting. We should do our work and study our subjects with a view of doing things well and understanding why we do them. By doing a reasonable amount of work every day, and by concentrating our energies upon this work we may accomplish all that is necessary and still have time to spare.

What shall we do with this time? To be a successful dentist a man must enjoy good health. Therefore, we should devote a part of our spare time to athletic sports and recreation. Our new gymnasium and fine athletic field give us unsurpassed opportunities to get the necessary amount of physical exercise and open air life. To be a useful citizen one must develop the social side of his nature and broaden his mind and activities. The various dental societies, clubs, and fraternities give us a great field in which to work. The number of students from all parts of the world, with whom we come in daily contact, affords us an opportunity for the study of human nature and a chance to cultivate and broaden our ideas which is unexcelled.

When entered into with the proper spirit, that is, the Pennsylvania spirit, these things become a pleasure in themselves, and the result is that we go out into the world clean, earnest, and capable men, able to meet the emergencies encountered in the practice of a great and honorable profession. Such men are a credit to themselves and to Pennsylvania. That is why we are here.

The Penn Dental Journal.

As a rule people seem to take it for granted that a student publication must necessarily be a financial failure. The JOURNAL furnishes a practical demonstration of the falsity of this belief. For some time it has paid its own way, thanks to the efficient work of our predecessors, and is at present in prosperous circumstances.

The present board considers it inadvisable to increase the quantity of matter and it is doubtful if they will be able to improve the quality, but it is their ambition to keep it up to the high standard set by Lewis, Ash, Wagner, etc. This can only be done through the aid and co-operation of its readers.

We do not hesitate, therefore, to ask our old readers to renew their subscriptions and to influence others to subscribe in order that we may keep the JOURNAL free from financial embarrassment and maintain its recognized literary standing. That the JOURNAL has this standing is proved by the fact that it is quoted by the leading dental publications both of this country and Europe.

The "Journal" Staff.

THE members of the editorial board for the current year accept their appointments with a degree of fear sufficient to drown the feeling of pride which they might otherwise have. However, they accept the work and responsibility with the honor, and put their shoulders to the wheel.

The Editor, having had no previous experience with the JOURNAL feels particularly doubtful of his ability. He fears that when his supporters get a sample of his work they, like the Prince of Morocco, in the "Merchant of Venice," will exclaim, "O hell! what have we here?" Yet he asks their indulgence and trusts that there may be something latent in the casket which will in a measure justify their confidence.

Dr. Lane, Alumni Co-editor, is too well known to need any introduction. In Dental Hall he is everybody's friend. Much of the JOURNAL's success has been due to him, and we thank him for his invaluable assistance.

Mr. F. P. R. Barker, '07, is our Junior Associate Editor. Having had some experience with the work last year he is well fitted for the position. Mr. E. Godfrey, '08, is Freshman Associate, and, being a new member of the staff, has yet to win his journalistic spurs.

Mr. Wm. B. Greenberg, '06, as business manager will certainly be a success, having proved his ability last year while assistant to Mr. Senior. Mr. Clarence M. Oliver, '07, is the assistant business manager from the Junior class and will doubtless do good work under Mr. Greenberg's supervision.

We wish to call attention to the fact that two important changes have been made in the Advisory Board this year. Each of the dental literary societies is to have a representative, and there will also be a representative for the British and French student groups, respectively. We consider these new additions to the board to be of great value to the JOURNAL from the literary point of view and also as tending to promote the cosmopolitan feeling and good will already existing among the students and alumni both here and abroad.

On account of the lateness of class elections and the consequent delay in making appointments the work of this first issue has largely fallen upon a few, but with our staff as organized and in systematic shape the JOURNAL anticipates a prosperous and useful year.

The Seniors.

WHOLESALE advice and suggestions are hurled at the homesick and discouraged freshman, but no one thinks of such impertinence when addressing the erudite and dignified senior. If the advice were distributed a little more evenly among the classes it would perhaps be more beneficial.

The term senior simply means older, and from our point of view it means older in knowledge of our chosen profession, and not necessarily older in years or general experience. The underclassman often asks, "How does it feel to be a senior?" Some seniors have been known to exemplify the feeling in question by their manner. It does not follow that because one has reached the final year of his course that he should take upon himself the duties of instructor or demonstrator. If he does he is apt to find that there are still a few points remaining for him to learn and the trusting freshman too often suffers for the senior's lack of knowledge or skill. But the senior should strive to be worthy of his place and to be able to give an intelligent answer to a question relating to dentistry or to do a creditable piece of work when asked to do so. It makes all the difference in the world whether he volunteers to do the work or is requested to do it.

When the senior realizes that in another year he will, in all probability, have to face the world and stand upon his own merits he has enough to occupy his full attention in preparing himself for this change of affairs. He doesn't have so much time to think of his dignity if he asks himself whether or not he is going to be able to successfully extract impacted third molars and to take charge of the serious dental diseases he may be called upon to treat.

On the other hand, the fact that he is a senior proves that the student has done a good deal of hard work and if he combines common sense and hard work in equal proportions he may be justly proud that he is a senior.

THE DEPARTMENT.

Opening Exercises of the Twenty-eighth Annual Session of the Department of Dentistry.

The opening exercises of the Dental Department for the session of '05-'06 far surpassed all previous functions of the kind. Practically the whole student body of the department was in attendance as well as many others interested in the advancement of the profession.

The program opened with a musical selection from Handel by Prof. Hugh A. Clark, Mus. Doc. of U. of P. This was followed by an invocation by Rev. William Tracy, D.D., Rector of Christ Memorial Church, Philadelphia.

Dr. Charles C. Harrison, Provost of the U. of P., was to have given the introductory address but was unavoidably absent from the city. He sent a telegram, however, stating that he was present in spirit if not in person, and expressing his wishes for the success of the exercises. His place was ably filled by Vice-Provost Edgar F. Smith, whom we all know and love, and who gave an eloquent and humorous address setting forth the beauty and usefulness of dentistry. In a particularly apt quotation from a letter by Dr. Oliver Wendell Holmes to a dental society he pictured King David lamenting the loss of his teeth and Washington's mind divided between the affairs of state and the possibility of his teeth sliding forth and chopping in two the word he was about to utter. In conclusion he introduced Prof. Willoughby D. Miller, A.M., D.D.S., M.D., Sc.D., of the University of Berlin, and a graduate of our Department of Dentistry. Dr. Smith's address was followed by loud and hearty cheering from the students led by Mr. Barry, president of the senior class.

Dr. Miller then gave the inaugural address which we give in full.

INAUGURAL ADDRESS.

The provost of your university has done me the honor of inviting me to address a few remarks to you at the opening exercises of the new term of work and study which now lies before you. As I have the distinction of being an alumnus of the Dental Department, I felt that it might appear ungrateful for me to decline the invitation, and so I am here before you notwithstanding many misgivings as to my fitness for the function which I have undertaken.

These initial exercises in which you are annually invited to participate appear to me to be of very vital importance. As you are well aware, every inert body set in motion has a tendency to go on moving forever in a straight line and in the direction originally imparted to it. And in like manner, every receptive mind, such as that of the young student, has a decided inclination to follow along certain lines of thought or activity which have been imparted to it by those with whom it has come into contact. Hence we see how important it is that the young man, in setting out upon a career of whatever nature, receive his first impulses in the right direction, and how great a responsibility rests upon the one whose duty it is to impart these impulses.

Preliminary instruction or advice as to the general lines which a student should follow in acquiring his education, whether scientific, political, or ethical, might perhaps be better dispensed with here at the U. P. than at many other institutions.

In foreign, especially German, universities, the student enjoys absolute freedom. He may attend the lectures, or not, at his own discretion, and is obliged to pass no examination until he comes up for his degree. As a result, he may be, and sometimes is, matriculated at the university for months and even years without coming into contact with the teachers under whom he is supposed to be studying. This condition of affairs is exemplified by the anecdote of the man who being asked the way to the university by a student, replied, "I don't know; I am a student myself." Here the student is not only required to economize his time and to acquire habits of industry from the very beginning, but he is brought into closer relation with his teachers, and the opportunity of seeking and receiving advice from time to time is always present, and forms a safeguard of inestimable value if the student will but avail himself of it.

You gentlemen are particularly fortunate in having for your teachers and advisers a corps of men who are esteemed the world over, as dentists, as scientists, and as men, and I have no better advice for you than that you put yourselves implicitly in their hands and follow their directions and their examples in every particular.

I have naturally no means of knowing what the motives were which determined each of you to take up dentistry as his life work. But of whatever nature they may have been, one thing is certain, that in acting upon them you have taken the most important step of your lives, a step in fact which fixes at once the whole configuration of your future lives, your occupation, your success, and to a great extent your happiness, and every one should be continuously awake to the fact that it is a very serious matter to take such a step, and having taken it should bend all his energies towards successfully and honorably carrying it out.

A quarter of a century ago, one of Germany's most famous surgeons, Professor Von Mussbaum, characterized dentistry as a great and beautiful science. If this was true twenty-five years ago, it is doubly so today, for we may say without fear of being accused of exaggeration that, with the exception of bacteriology, no specialty of medicine has advanced more rapidly, and very few as rapidly, as dentistry. Few accomplish as positive results, none repair injured or restore lost organs with the same degree of success, or with the same perfect imitation of nature, as is accomplished by the dentist. Moreover, in the same degree as a knowledge of the intimate and causal relations of the diseases of the teeth and mouth to the most diverse local and general disorders becomes more wide-spread, so too, a more thorough appreciation of the importance of the science of dentistry is rapidly making its appearance everywhere, and especially in the ranks of the medical profession. It is, or soon will be, familiar to all of you that diseased conditions of the teeth are the cause of the most various local and general disorders of the human body. To say nothing of the inflammation of the dental pulp, of alveolar abscesses, periostitis, necrosis of the jaw, suppuration of the antrum and frontal sinuses, we know that neuroses, neuralgias, serious disorders of the digestive organs and of the air passages and lungs, troubles of the ear, eye, and nose, as well as meningitis, septicæmia, chronic pyæmia, etc., very frequently have their origin in diseased teeth. More recently, moreover, Professor Bunge has shown that lactation is very markedly influenced by the condition of the teeth. The statistics of Roese and others reveal a striking percentage of recruits rejected because of bad teeth, and what is of particular interest, various observers have found that the capacity of school children for giving attention to their lessons and for learning bears a direct relation to the condition of the teeth and that good marks are indications of good teeth. I need not dwell upon this point, for it is now universally known and acknowledged that the physical well-being of a nation, its progress and development, are in no small degree dependent upon its teeth; and we need not hesitate for a moment in placing the specialty which you have chosen, in respect to its capacity for relieving human suffering, for healing disease, and improving the general health and comfort, for intensifying capacity for work, physical or mental, on a perfect level with the other specialties of medicine.

A knowledge of all these facts has been for years and still is, rapidly spreading among all classes of people with the result that a demand for well-educated and skilful practitioners is rapidly increasing, so that the outlook for those who are now entering upon or already engaged in the study of dentistry is very encouraging. And with the opportunities which are afforded you here, it lies with great certainty in your power to attain success in your life work, with all the pleasures and comforts and power for doing good which accompany it. But you must not imagine for a moment that that success comes of itself. It has been said that some men are born great, some achieve greatness, and some have greatness thrust upon them; but this does not apply to the dentist. The only way in which he can become great is by achieving his own greatness; and that he can do only by most diligent application and by taking advantage of every opportunity that is afforded him for perfecting himself in every branch of dental science and dental practice; and you must not forget, gentlemen, that dentistry is a science so broad and comprehensive that to master it every moment of time at your disposal must be called into requisition, and anything short of that will not guarantee your success. It may entail your failure; for while there is always room, and always will be room, for eminent workers in every profession and trade, there is but little place for the mediocre, and none at all for the inefficient or lazy.

It is said that the young are inclined to be optimistic, but this idea does not tally with the fact that our most pessimistic systems of philosophy of life which are so well adapted to wreck the happiness of millions of otherwise contented beings, were wrought out by men scarcely out of their twenties; while many of our most ardent exponents of a more hopeful and faithful view of life, have been well advanced in years. I should say, therefore, that it is not optimism but rather criminal thoughtlessness, when a student goes through his college days with no thought of the future, and doing only just the amount of work necessary to secure his degree. In fact, the student often makes the mistake of supposing that he is studying only for a degree, and that the degree once obtained, everything will come of itself. This is a great mistake and the sooner it is remedied the better. The degree is simply an outward decoration, a guarantee that the holder has gone through with a çertain amount of study and work—it adds nothing whatever to his capabilities.

Never forget that your chief object here is not to secure a degree but to prepare yourselves for a great life work, and that your future happiness, success, and position will depend upon the more or less perfect manner in which you carry out this object. Work always with this aim in view and the degree will come of itself.

If you will permit me, I will give you in as few words as possible my conception of the ideal dentist of today.

In the first place, he must have a broad, liberal education to begin with since it is folly to attempt to erect a beautiful superstructure upon a weak or rotten foundation. The dentist will be seriously handicapped in the pursuit of his professional studies if his liberal education and training have been deficient. A man, moreover, whose calling is at the same time scientific and humane, and brings him into contact with all classes of people, must be an educated man in order to uphold his own dignity and that of his profession. He must also be prepared to think and act intelligently in all social, political, and educational problems of the day.

The dentist must be thoroughly posted in all branches of general medicine which have a direct bearing upon dental science or practice; as a matter of fact, the question may be asked with perfect propriety: "Is there any reason why the dentist should not take exactly the same preparatory studies as the other specialists?" Certainly the relations of the teeth to the neighboring parts, and through the nerve-vascular and lymphatic systems to remoter parts are quite as manifold and complex as those of the eye or ear; and why should the dentist be expected to know less of anatomy than the aurist or opthalmologist? The same question may also be asked in respect to Physiology, Hygiene, General Pathology, Bacteriology, etc. I personally would say in answer to this question that the science of medicine in all its branches is growing so rapidly and has already become so extensive that no one even though he may have five, ten or even twenty years for study will ever be able to master all parts of it equally well, and that it will be expedient if not necessary in the future that every specialist restrict himself more or less to those branches of study which have a direct bearing upon his own specialty. There is no more reason for the aurist than for the dentist to devote months to acquiring a thorough knowledge of obstetrics or gynæcology or even of the anatomy of the extremities, physiology of the spleen, etc. On one ground only we may be possibly justified in limiting the general medical studies of the dentist somewhat more than that of other specialists and that is because he requires more time than they to master his own special studies and operations. We must, however, carefully avoid going too far in this direction since, as already indicated, to use a geographical expression, dentistry is absolutely bounded on all sides by the science of medicine and must stand on the same or at least on as firm a foundation as the other branches of medical science.

The dentist must naturally be particularly proficient in all special subjects relating to the science and practice of dentistry. He must also possess a high degree of manual dexterity in view of the exceeding delicacy required for the carrying out of many operations which he is called upon to perform. The want of this dexterity has been the cause of the failure of many dental practitioners, and the student who is not endowed with it by nature should make every effort under the direction of his instructors to acquire it. He must not forget that dental operations are to many patients exceedingly painful, and he should take every precaution to reduce their discomforts to a minimum. The idea that the excavation of a tooth to be perfectly done, must of necessity be painful, always seemed to me to be a bit barbarous, and sometimes made use of as a mantle to cover lack of care or the use of improper instruments.

The dentist must be a strict observer of the fundamental principle of modern surgery, *i.e.*, of the rules of asepsis. In no department of medicine is a demand for asepsis, *i.e.* cleanliness, greater than in the practice of dentistry, both on account of the danger of transmitting diseases, and because the dentist is brought into more intimate contact with his patients than the general practitioner. The student of dentistry should, accordingly from the very beginning cultivate habits of the strictest cleanliness not only in respect to his person, especially the hands, but also to his napkins, his instruments, materials, and everything which comes into contact, directly or indirectly, with the mouth of the patient.

An experience of twenty-one years of teaching has taught me that one cannot insist too strongly or too often upon this point.

He must studiously avoid getting into the habit of degrading his profession to the level of a trade, or of putting to himself the question "How many dollars and cents are there in this mouth for me?" instead of "How can I best save these teeth and make them comfortable and useful to the patient?" No dentist can conduct a practice on such a principle without dishonoring himself and his profession. Certainly it is right and honorable that he receive a fair remuneration for his work. It is right that he should accumulate enough of wealth during the long years of a responsible and trying practice to enable him to meet old age free from care; but to make everything else subordinate to the one thought of getting money, and possibly to sacrifice the best interests of those who entrust themselves to his care, for this aim, is to do violence to the ethical principles by which every member of the humane professions is inexcusably bound, and the dentist who conducts his practice on this plan is little better than a parasite.

I may also say in this connection, that an institution which exists ostensibly for the purpose of preparing men for the practice of dentistry but which sacrifices what is acknowledged to be the best interests of its students in favor of a greater balance in the cash account, deserves no better consideration, and the sooner it goes out of existence, the better for all concerned.

The dentist should not be over hasty to criticize the work of a colleague as he cannot know the exact conditions under which it was done, nor can he by any means always trust the statements of the patient in regard to it. Above all things he should never by a shrug of the shoulders or by silent acquiescence in erroneous statements of the patient, sanction an unjust accusation against a colleague. No dentist who has a proper feeling of self-respect would do a thing so mean, to say nothing of the fact that the patient usually sees through the object of it. On the contrary it is the simple duty of every dentist to strongly and unequivocally defend the character of a brother dentist when he sees that it has been unjustly attacked.

There is still another matter to which I wish to call attention. The patient-material upon which the student operates in the dental college is recruited largely from the poorer classes, servants, day-laborers, etc., and the student easily acquires the habit of thinking that it is not necessary for him to have the same respect of person or to carry out the treatment with quite the same care or consideration that he would observe in his private practice. This is a grave mistake, for habits acquired during your college practice are difficult to change later on, to say nothing of the fact that the poor man has the same sensibilities and, as patient, is entitled to just the same respect as the rich man. You should, accordingly, in your college practice, observe in every particular the same degree of care as will be demanded of you in your private practice later on.

I have been in the habit of pointing out to my students a certain criterion by which they in a way are enabled to foretell their success or lack of success in their future practice. If the patients are satisfied with the treatment which they have received and if on returning later on, they ask to be treated by the same student, and bring their friends with them for treatment, so that the student in a way accumulates a practice about him in the dental colege, I do not hesitate to say that his future success is secured.

If on the other hand, patients complain of his treatment and apply to the Demonstrator to be put into the hands of some other student, then it is time for him to seriously inquire whether he is not in some vital respect at fault, and to give himself the greatest pain to remedy the fault; for if he is not able to give satisfaction in his college practice, he will do it much less later on.

Do not forget that you have duties to perform in the interest of your profession. A member of a family, a society, community or profession, cannot isolate himself from his surroundings, or honorably escape from the performance of his duties towards the organization of which he is a part. The dentist owes all he has to his profession, and if he does not seek to make some return, he is either very selfish, or at best, very thoughtless. It is his duty to support the societies which are the nerve centers of the profession. He should do all in his power to advance dental science. He should extend his aid and encouragement to the less fortunate brothers, and help to elevate the standard of his profession by living a righteous and just life and by seeking the advancement of his profession, rather than his own. Above all things, he should not make use of any influential position which he may have acquired in any dental organization for carrying out his own devices.

A young man beginning the practice of dentistry should be prepared to undertake the treatment of all diseases of the teeth and contiguous parts which present themselves; excepting of course, surgical cases requiring a more special training than he has been able to acquire, which he should refer to some colleague, who has made a specialty of such operations. It does not follow from this however, that it may not be advantageous for him, as well as for his patients, to restrict his practice to some particular branch of dental surgery; in fact, the practice of dentistry has become so extensive and is growing so rapidly that the time will soon come—if not already here—when it will not be advisable for the dentist to attempt to do all the operations which come within the scope of his profession. And if you find that you have a special aptitude for any particular work, whether it be for the preservative treatment of the teeth, or for dental surgery or for prosthetic dentistry, for crown and bridge work, or porcelain, give your particular attention to such work, if circumstances permit, and eventually you may be able to restrict yourself to that alone, with the result that you will work with much more satisfaction and less strain to yourself, and serve your clients better.

Great opportunities are offered to the young man now entering upon the practice of dentistry. Our profession is as yet only in its infancy, and the work so far accomplished, great as it is, is small in comparison with that which is still to be done. At present the great aim of medical science is to prevent disease by restricting its causes, by assisting the body in the use of those powers of resistance with which it is naturally endowed, and by inciting such powers where they are wanting and we as dentists following out the same line of thought have our problem of immunity to caries, as observed in individual persons, to deal with, and the practically still more important problem growing out of that of conferring immunity upon persons naturally disposed, *i.e.*, the problem of the prevention of the decay of the teeth, and the man who succeeds in solving this problem will confer a greater boon upon humanity than resulted from the discovery of X rays, or of the diphtheria heil-serum.

Another great problem with which you will have to grapple is that of making the blessings of dentistry accessible to the great masses of the people. Dental operations as now carried out are disagreeable if not absolutely painful to the patient as well as trying to the operator, and in particular they require an expenditure of time which appears to be out of proportion to the operation itself. We consume more time in filling a simple cavity in a tooth than the surgeon in amputating a leg or performing a laparatomy and when we have to do with a pulpless and diseased molar the amount of time spent may be five to ten times as great as is necessary for a difficult surgical operation upon which the life of the patient is depending. The result is that the care of the thirty-two permanent teeth becomes a very expensive matter and many a father of a family pays more to the family dentist than to the family physician, *i.e.*, more for the care of the teeth than for that of all the rest of the body together. We are also forced to admit that for the same reason the blessings of preservative dentistry are a luxury far beyond the reach of the great masses of the people. Taking it the world over not one person in five hundred could afford the expense of having his dead molars properly cared for. In European countries the percentage will be about one to twenty-five or thirty. In

America where there is much more money in circulation among the middle and laboring classes, it may possibly be as high as one to five. Nor does it appear to me that the development of dentistry in the last few years has been such as to make it more accessible to that class of people which in the daily struggle for existence suffers much more from the lack of sound teeth than the opulent classes who stand above this struggle or are better able to compensate for the lack of sound teeth by other means. At present dentistry is developing most rapidly in the artistic direction and there is a great cry for artistic operations. Everything must be made of porcelain: porcelain bridges, porcelain crowns, porcelain fillings, and everything carried out with such a highly developed sense of the artistic that the artificial nature of the work shall be absolutely undetectable to the unskilled eye. And we must admit that there is a great future for the dentist in this class of operations, and great credit is due to all who have done anything to perfect this particular line of work and it is to be hoped that the time is not far distant when the gold crown on an incisor root (which is little less than a relic of barbarism) will be a thing of the past. But nevertheless this class of work tends to render dental aid still less accessible to the poorer classes and its particular culture cannot be regarded as an unmixed good unless at the same time an equal development takes place along other lines.

We need materials and methods which will render it possible to shorten and cheapen dental operations so as to bring them within the reach of everyone. We need accordingly a filling material of the nature of a cement which can be quickly and easily inserted and will preserve the teeth permanently. We need some way of shortening and simplifying our present long and complicated methods of treating root canals and the one who discovers and introduces such materials and methods will confer a much greater boon upon humanity than all those together who have contributed to the development of the art of employing porcelain in the preservative treatment of the teeth. For we must always bear in mind that it is the object and evident duty of our, as of every other humane profession, to do the greatest possible good to the greatest possible number of people. Professors of a great and beautiful science with a constantly widening sphere of activity, with manifold great and complex problems both scientific and practical to be solved, a great future lies before you, and if you are willing, I doubt not that you will also show yourselves capable of meeting all of the requirements that your profession justly exacts of you. Liberally educated, well posted in all collateral branches of medical science, master in the science and practice of dentistry, unerring in the performance of his duties, ethical and Christian, to his patients, his colleagues, his profession and his country: this is my conception of what the dentist ought to be and of what I trust each of you will be, never forgetting that however great a thing it may be to be a good dentist, it is far greater to be a good man.

The exercises closed with the grand old University hymn, "Hail Pennsylvania." When the singing ceased the students again broke forth in enthusiastic cheering, giving three long "rahs" for Dr. Miller, Dr. Kirk, Dr. Darby, Dr. Cryer, in fact for all of the professors of the dental department.

Flashes Through the Smoke.

"It is worth everything to a professional man to stand well with his colleagues."—Dr. Kirk.

"There are no better fellows on the face of the earth than the students of the Dental Department."—Dr. Smith.

"Young man, you must cultivate a gentlemanly deportment in order to be successful."—Dr. Truman.

Dr. Miller's Lecture.

On Wednesday evening, October 4th, at Dental Hall, Dr. Miller, of the University of Berlin, lectured to a large audience which included the faculty of the Dental Department, many prominent practitioners and the whole student body.

By way of introduction, Dr. Miller called attention to several questions which are of vast importance to the modern dentist. These were:

1. As to whether the dissolution of cement and dental tissues is in any way due to the action of ptyalin as has been suggested by Hinkins of Chicago and Lohmann of Cassel.

2. To what degree carbo-hydrates are concerned in caries of the teeth or whether mucin is a factor in this disease.

3. The question of erosion. The greater part of the lecture was devoted to the consideration of this subject. Dr. Miller includes under erosion all cases of destruction of the teeth not accompanied by decalcification or other evident cause such as accident, etc. He mentioned two of the most common theories of erosion, the mechanical theory and the chemico-mechanical theory. Attention was called to the question of whether the action of fer-

ments was the important factor or whether, as many believe, erosion is due to the action of something of the nature of an acid. Dr. Miller exhibited numerous interesting specimens from his experiments on this subject and stated, as a result of these experiments, the belief that there may be some factor in erosion not acid in character, which acts on both organic and inorganic structure because no acid which brings about decalcification also causes erosion; also because tooth structure decalcified by an acid is more resistant to brushing than the normal structure and finally because in a great many of the worst cases of erosion the reaction of the mouth is alkaline.

Class Officers.

THE three class elections have been held and the following officers were elected for the current year:

Senior Class.—President, Walter F. Barry; vice-president, Thos. F. Sherlock; secretary, R. Stevens; treasurer, M. Burke.

Junior Class.—President, F. P. McPherson; vice-president, E. Millet; secretary and treasurer, G. Kellog; sergeant-at-arms, D. B. Bradley.

Freshman Class.—President, Wm. Watts; vice-president, E. C. Godfrey; secretary, E. A. Devine; treasurer, C. B. Eckert.

Dr. Smith's Reception to the Freshmen.

THE smoker and reception given by Vice-Provost Smith Tuesday evening, October 17th, was largely attended by Freshmen from all departments and enjoyed by all.

Dr. Smith exhibited his "Picture Book of the University." The numerous views, starting with the founding of the University and following its growth until the present day, were described by Dr. Smith as they were thrown on the screen.

Pointing out the part Pennsylvania played in the signing of the Declaration of Independence, in the war that followed, and in our government today, Dr. Smith infused every man present with that "Pennsylvania spirit" which is so prominent in every phase of the University's work.

The Freshmen's Smoker.

ONE of the most pleasant events of the dental student's year is the annual smoker given to the Freshmen by the upper classmen. I say upper classmen, but its success is really due to the goodness of heart of the members of the faculty and that man than whom there is none better beloved by the student body—I refer to Dr. Smith. Somehow our smoker would not seem complete without him. Each man feels, and justly, too, that he is his friend, and there is none better fitted to welcome new men into what he so aptly calls "the great University family."

President Barry of the senior class opened the exercises, and introduced the first speaker, Dr. Kirk, who spoke of University life in general. We have grown to expect from Dr. Kirk just the right thing in the right place, and we were not disappointed in this instance.

Dr. Kirk was followed by Dr. Smith. who told us some things that many of us did not know about a number of the early sons of Penn, some things that made us sit up and think how closely the history of the University was associated with the history of the nation, and of the splendid deeds of some of the old grads. He made us feel a tickling sensation up and down our spinal columns. Indeed, the only way to get rid of it was to yell (like h—l)—and we did. And that feeling we call University spirit.

Dr. Truman was next introduced, and made one of the truly great hits of the evening. His remarks about football—of the slugging he did not see, and the reasons why we were not represented at the football conference at Washington were ingenuous—and not a little ingenious.

He was followed by Dr. Turner, who in his dry way told of former days at Penn when poor freshmen were maltreated and compelled to turn their coats inside out and kneel down on the cold ground to "wipe off that smile."

Then came Dr. Cryer, bluff, hearty, and sincere, with reminiscences of the early days of the Department.

They were splendid speeches, all of them, making us feel proud indeed that of such was the University of Pennsylvania.

The speeches were interspersed with songs by Dr. Painter of the faculty, and Messrs. Lipschutz, Dewhurst, and Roberts of the senior class.

But what struck the writer most, was the splendid spirit manifested by the student body. The songs were sung with a vim, and the yells were given with a gusto that made the old hall ring, and proved the dental men to be among the most loyal of the supporters of the red and blue. The freshmen, too, seemed to catch the disease—I admit that it is quite contagious—and yelled with the best of them. We pray that it may prove chronic.

Altogether, the smoker was a huge success, and did credit to Old Penn as well as to the Department. The senior and junior classes are sincerely grateful to the faculty and Dr. Smith for their loyal support, and I am sure the Freshmen appreciate the warm reception given them. We feel that we know each other better, and this, after all, is the whole scheme of the smoker—that each man, whether student or preceptor, should be drawn into closer contact and warmer sympathy with one another.

Clinics at the Philadelphia Hospital.

The present era in dentistry is conspicuous for specialization by its leaders. Perhaps the broadest in its scope and most difficult is oral surgery. The field is large and the demands upon the coming practitioner for ability and accuracy along this line are many. To have with us a man capable of guiding us correctly in the details of this subject and whose experience and knowledge of the subject are unsurpassed, is an absolute necessity, and it is with great satisfaction that we point to Dr. Matthew H. Cryer. His attitude toward us as students and toward his profession is such that we feel instinctively drawn to him and regard him as one of the pillars of our school. The interest of the students in the subject and the popularity of Dr. Cryer are well attested by the attendance at his clinics, not only by our men but also by those from the other dental schools and even some from the medical schools have a lively interest in them. This session was well begun with an attendance of nearly two hundred and has been steadily increasing each succeeding week.

On Saturday, October 14th, three very interesting cases were presented. First a fracture of the jaw between the lower left lateral and cuspid teeth, caused by a fall. The case was not brought in until five days after the accident. The parts were freely movable. At the time there was little exudation of pus and the soft tissues were not much lacerated. A splint was made covering all the teeth of the lower jaw and an irrigation of weak phenol-sodique was used.

The second was a case of tracheotomy because of a carcinoma involving the glands of the neck which pressed upon the left recurrent laryngeal nerve and made the operation necessary.

The third was a good example of secondary syphilis shown by the mucous patches in the mouth.

Saturday, October 21st, a case of carcinoma of the parotid gland, a large ulcer about the size of the palm of the hand of about eight or ten years duration. A case of tubercular glands of the neck came next, after which the case of fracture of the mandible exhibited upon the previous Saturday was shown with a marked improvement.

Saturday, October 28th, an interesting case of tuberculosis of the skin was shown. The progress of the disease had been arrested by the X-ray treatment resulting in the destruction of the pigment cells. A fracture of the mandible was also shown. The hour ended with the exhibition of a case ot goitre diagnosed by Dr. Jarvis. The right lobe and isthmus of the thyroid gland was involved with a calcified mass between the trapezius and clavicle.

Saturday, November 4th, a case of lead poisoning was presented showing very nicely the characteristic blue line around the gingival borders of the teeth. Another case of fracture of the mandible was shown. Dr. Cryer gave a talk upon Bell's palsy and facial paralysis and their differentiation, while a case of the latter, caused evidently by an operation upon the face between the ramus of the jaw and styloid-process, was shown.

NOTE—It is worthy of note that the city of Philadelphia is one of the few municipalities which has established a department of oral surgery in connection with its general charity hospital. Dr. Matthew H. Cryer is at the head of this department and the results of the experiment are being watched with great interest both in America and Europe.—EDITOR.

Dr. Kirk Honored by France.

DR. KIRK has recently received from the French government the decoration of Officer d'Academie which was conferred upon request of the French group of the Féderation Dentaire Internationale. Dr. Kirk is considered in France as one of the great contributors to dental education and the French, as a nation, are as ready to recognize and admire greatness in a foreigner as in one of their own people. As practical evidence of this feeling fourteen French students have entered the Department of Dentistry this year and they very heartily applaud the distinction granted to Dr. Kirk. The violet ribbon worn by an American will remind them that France always admires and encourages progress wherever it is found.

DENTAL SOCIETIES.

Edwin T. Darby Dental Society.

At the opening meeting of the Edwin T. Darby Dental Society the society merely transacted the business that had accumulated during the summer vacation. Dr. Darby had intended to address the society but owing to another engagement on that night he was unable to attend.

The society starts the present session under very auspicious conditions. The meetings are held on the first and third Mondays of the month. Mr. A. C. Lewis is president.

James Truman Dental Society.

The first regular meeting of the James Truman Dental Society was held Thursday, October 13, '05. President Barry appointed literary and membership committees. Dr. Truman gave a very interesting talk on the advancement of the society and also on dentistry of the past and present. Meetings were held on October 24th and November 9th at which the business of nomination and election of new members was transacted.

Edward C. Kirk Dental Society.

The first meeting of the Edward C. Kirk Society was held October 12, '05, President Holland presiding. After an address by the president a program committee and a membership committee were appointed.

At the next meeting held October 26th, a paper was read by D. A. Holden, entitled "Alveolar Abscess." Dr. Jaco, the speaker of the evening, gave a very instructive and interesting talk on the "Insertion of Gold Fillings." After tendering a vote of thanks to Dr. Jaco the society adjourned.

French Society.

A society of the French students, known as the Amicale Française de l' University of Pennsylvania, has been organized but as yet have nothing of importance to report.

British Dinner.

THE sixth annual dinner of British students was held on the evening of the 9th of November at the University Club with the president, Mr. E. B. Dewhurst, in the chair; Mr. A. F. Marr in the vice chair, and as guests Mr. C. C. Harrison, the provost, and Dr. E. C. Kirk, dean of the Department of Dentistry. There were present representatives from England, Canada, Australia, New Zealand, and West Indies—in all a company of 32. An excellent dinner was provided and done justice to by all present. After the toast of the King had been honored the British Empire was proposed by Mr. Bowater (England). The speaker dwelt upon the imperial spirit which was always so manifest wherever the branches of the empire were met together and eulogized the united front which the empire was at all times able to show to the world in times of trouble. He drew attention to the marked influence of the empire upon the destinies of the world at large, its commercial prosperity, its fleet of merchant vessels, and the strength of the navy, England's safeguard, which was numerically superior to that of any two other European nations. Concluding he exhorted the different branches of the empire to stand firm in their allegiance to their "one flag, one destiny, one king." The toast was replied to by Mr. James (for England) who showed the kindly feeling existing between the motherland and her colonies and the appreciation felt there at the noble assistance rendered by the colonies during the late war which cemented the empire more closely together than before.

Mr. Holland replied for Australia and gave an eloquent picture of the loyalty existent in the Australian colonies always to the crown. He spoke of the development of Australasia in comparison with its area and looked forward to a great nation in the southern seas in the future with great industries absorbing its many natural products and an ever increasing trade with the world fostered by the imperial protection of the empire.

Mr. Balderson replied for Canada giving a very interesting sketch of the great natural resources of the land, the development of the country and its power to attract immigration. Taking his hearers with him on an imaginary journey across the Dominion he pointed out the many wonderful characteristics and concluded by assuring his hearers that no more loyal country existed than was the great Dominion of Canada.

The chairman, Mr. E. B. Dewhurst, then proposed the toast of the "University and our guests." After alluding to the previous toasts of the empire he said:

On me this evening devolves the privilege of proposing a toast which, I am sure, you will all drink with acclamation and the kindliest of feelings—namely, that of the great University of which we are, at the present time, members, and whose praises we sing now, and will undoubtedly sing for many years to come. When I look around me, I see before me many faces, some new, some with whom I have been associated a little time, and some for the full term of my course here, and I feel that one and all, they voice with me, to the fullest extent, that loyalty, admiration, and respect, that contact with so great an institution as the University of Pennsylvania could hardly fail to impress upon them. Almost, I may say, we are come from the uttermost ends of the earth to worship at the shrine of knowledge here displayed, and to testify in no uncertain manner by our presence here alone, if by no other way, to the widespread prestige and reputation, as a school of the highest learning, which the University of Pennsylvania has acquired. As to its professional schools in medicine, engineering, and law, so is it, and even more so, with the school of dentistry of which we are all members, until now it is generally recognized in almost every British colony, and in the motherland itself, that the Dental Department of the University of Pennsylvania stands for the highest excellence in all the technicalities of our profession, as well as in the manifold sciences with which the profession is intimately associated.

In all departments of the University, professional and academic, the goodly offices of one man stand preëminent, for his kindly interest, his unflagging loyalty, and his princely beneficence, and, as is only right in such a case, he stands in the position in which he should stand, as the supreme head of the institution at large where he is honored and revered by all classes. I allude, gentlemen, to our most honored guest, Mr. C. C. Harrison, the Provost of the University of Pennsylvania. I wish to say to him, that I speak with the voice of everyone present here tonight, and with the voices of many of those who have left us, when I say that the honor he has done us tonight, in being present at our gathering, will remain long in our hearts, and the pleasure which it gives to see him here forms no small part in the happiness of this evening.

As you, no doubt, will all remember, it is only within the last few years that the profession of dentistry has been raised by the efforts of some of its most leading lights from the position of a mere skilled trade to that of an accurate and far reaching science; while the status in the professional world of those who practice this profession is rapidly being accorded that position which so scientific a training should undoubtedly confer.

In connection with all matters appertaining to the Dental School, there stands out prominently upon the horizon of the profession, one name in particular, namely, that of our guest this evening, and I may honestly say, our friend, Dr. E. C. Kirk. Perhaps no one but Dr. Kirk himself can adequately describe the efforts which he has put forth in this direction, but we can, at any rate, appreciate them to the fullest, and can profit by the fruits of his labors, which are now manifest. I feel that it is quite unnecessary for me to descant to you on the subject of Dr. Kirk's labors for the advancement of the profession. You must all know them as well as I, but I would like to say, more for the benefit of those who have lately joined the University, for those who have been here some time doubtless know it, that Dr. Kirk has always proved himself a friend and close counsellor to all the students from the different parts of the British Empire who are congregated here, and he is ever ready to offer them his assistance and encouragement, whenever they see fit to call upon him. Those of us who are third year men can now already see in the near future our graduation and the separation which may then probably take place between ourselves and this institution of which we are justly proud, and I, for one, look forward to this with mixed feelings, in which regret must play an important part. But though this separation be that which removes us many thousand miles from the present scene of our activities, still I venture to say it will not be complete inasmuch as our minds must ever carry in them recollections of the kindliest form, admiration and pride at the successes which this great institution has achieved in the past, and must surely achieve in the future; and in the time of those successes you, who are left behind, and those new students who will then fill our places, may perhaps hear a no indistinct echo of applause from far across the water from the throats of those students who, though sons of the great British Empire, are, nevertheless, sons, also, of "old Penn."

The Provost in reply said he was very glad to be present and more especially at a dinner of the British students as he had visited England many times, and if he did not live in Philadelphia he would surely live in England. He said that he could see the keynote of the evening was that of the imperialism of the empire, and he wished that all would carry that idea into their university life and endeavor as far as in them lay to make the U. of P. the Imperial University among all those in the land, extending to it from other lands the same imperial loyalty which as members of the empire they extended to that empire itself. He maintained that this could only be done by the students themselves, by their work, and by the good word they would undoubtedly say for the University after they had left the country. He referred to the formation of a British Society (now in progress of formation) and gave the project his heartiest support, promising such assistance as the faculty could give.

Dr. Kirk, replying to the toast, spoke at length on the value of the system of training offered to the students and how the University had always endeavored to make the course in dentistry the most valuable and efficient of its kind. This had always been done notwithstanding the fact that the question of expediency from the financial standpoint was a necessary factor entering into the educational problem. The policy of the institution had however always been, and especially so under the administration of Provost Harrison, to improve the educational system no matter what financial stress the forward educational step might temporarily cause. He quoted from Mr. Harrison a statement once made by him at a Faculty meeting when the question of increasing entrance standards in the Department of Dentistry was under consideration and at a time when it was feared that the adoption of a higher entrance standard might reduce the income of the Department to a point where it would not be able to meet its current expenses, in which connection Mr. Harrison said, "I hope it is generally understood that this University does not want to make money out of its students at the expense of their educational equipment."

It is that policy which has actuated the Department all through. He alluded to the cordiality which had always existed between himself and the British students here, and complimented the students on the general class of work they had always exhibited and trusted that the mutual respect and interest would go on growing in the coming years.

After cheers for Dr. Kirk and Mr. Harrison, Mr. Marr proposed the toast of the United States and President Roosevelt. He alluded to the many evidences of prosperity and business ability displayed all over the country and to the very friendly relations between this country and the British Empire as should be the case between nations whose aims and interests were one. He alluded to the President as a man of unbounded personality, "fearless in his actions where his convictions were sure, respected by his enemies and the idol of his friends." A man who in his work or recreations displayed such a manly energy and intense virility and withal such gentleness and kindly feeling as must endear him to all people from whatever country they were come. The toast was received with enthusiasm and after three "British" cheers for Dr. Kirk and Mr. Harrison the proceedings terminated.

Alumni Notes.

On the 29th of June, '05, Dr. R. A. Bush, '99, was married to Miss Nellie B. Blodgett at Roxbury, Mass.

Dr. Howard Hillman Woodrow, '98, was united in marriage, September 6, '05, with Miss Caroline Ruth Fullaway.

Dr. T. Ryan, '03, (better known at "Tommy") and wife were recent visitors at the Department.

Dr. Geo. H. Johnson, '92, and family, from the Bahamas, W. I., attended the Harvard game and left for New York November 13th.

We are pleased to learn that Dr. F. S. McKay, '00, is now demonstrator at the Angle School of Orthodontia, St. Louis.

Dr. F. P. Layman, '05, is located at 407 Main street, Towanda, Pa.

Dr. E. S. Stevenson, '05, 'Varsity stroke last year, was recently married.

Dr. J. A. Dowden, our genial demonstrator in the impression room, is the proud father of a bouncing baby boy.

Drs. Chapman, '05, Lockett, '05, Bolton, '02, and G. F. DeLong, '03, are at St. Louis taking Dr. Angle's course in orthodontia.

Dr. F. R. Getz, '04, who is with Dr. M. L. Rhein, was married last September.

Dr. W. I. Zyner, '05, will locate at Pennsburg, Montgomery county, about the 15th inst.

Dr. Casares, '05, is taking the Peeso course in crown and bridge work.

Dr. Geo. T. Lemis, '05, is with Drs. Kew Bros., Hongkong, China.

Dr. Edward Evan Jones is associated with Dr. Noble at Hongkong, China.

Dr. W. C. Haeffer was married July last.

Dr. Lane a Specialist.

Our worthy Alumni Co-Editor, Dr. Lane, has extended the scope of his work to the treatment of septic abscesses, not of the teeth, but of the fingers. Dr. Zerfing was his first patient.

THE UNIVERSITY.

Exchanges.

It gives us pleasure to acknowledge the receipt of the following exchanges: *Australian Journal of Dentistry, Dental Cosmos, Medico-Chirurgical Journal, Alumni Register, Le Laboratoire, Revista Odontologica, Dental Record, Dental Digest, Dental Summary, Dental Brief, Tydschrift voor Tandheelpunde, Western Dental Journal, Shikwa Gakuho, British Journal, Vierteljahresschrift für Zahnheilkurde.*

Sporting Notes.

With such success in the face of adversity it is no wonder that the interest in athletics this year is keener than ever. The Department, as usual, is well represented on all the 'Varsity teams.

If Penn wins in the last two football games she will have scored a wonderful victory considering her steady run of hard luck.

Harvard enthusiasts say there was a great mistake made in the recent game with Penn. We think that the mistake was that they didn't take on that prep. school they talked so much about instead of tackling Penn.

Our representatives on the football squad are: Weede, '06, Roberts, '06, Bradley, '07, Longwell, '07, W. Hollenback, '07, and Colburn, '08.

The basketball team has been practicing for two weeks and the prospects are bright for a good team. Ehlers, Sprague, and Flint are back from last year's team. Flint was elected captain to take the place of Geo. Lawrence who has had typhoid fever. About 100 candidates have reported so far; with more coming out later a good team should be picked. Russell Smith has been selected as coach, having played on the 1900 and 1903 teams. The most promising men are Kenneth, Kufahn, Sprague, Ehlers, Weaver, McCrudden, Kirsatrick, Canning, Watts, Shirley, O'Neil, Dooley, Davidson, Grim, Philp, Salmon, Shaffer, Garrison, and many others. A hard schedule has been arranged including Yale, Harvard, Cornell, Princeton, and Columbia. Lehigh is the first game on December 16. Columbia is the first inter-collegiate game on December 20. Everyone should turn out and root for the team.

There has been much interest manifested in the various departments in the rowing branch of athletics. The Department crew put up a good fight considering the men they were up against.

The Interdepartment race was won by the Sophomore College crew.

The swimming teams have not been organized as yet but there is plenty of good material from which to choose.

Dewhurst, '06, our crack tennis player, is with us and will doubtless keep up the pace he set last year.

Pennsylvania's prospects for a winning track team this spring are brightest in recent years. With Trainer Murphy in charge of the squad and with a number of last year's point winners in the University the outlook is good. Generally speaking the 'Varsity track team will be strong in sprinters, hurdlers, middle distance men and jumpers and weak in weight men and distance runners.

The return of Cartwell to the University has brightened the outlook considerably. Cartwell is easily the best sprinter at Pennsylvania in recent years and he is generally expected to make a strong fight for first place in both the 100 and 220 yards dashes. Besides Cartwell, Dear, Whitham, and Olson will be developed. Lipschultz, a freshman, also showed up well in the fall handicap games.

In the 440 yards dash Taylor, the 1904 Intercollegiate champion, Cartwell, Shaw, and Whitham are all strong runners and are liable to develop. Taylor was ineligible to represent the University last year on account of his studies, but he is again eligible and will in all probability be a strong member of the team.

Captain Amsler Thayer and McCullough, a freshman from Mercersburg, are the standbys in the hurdles. Captain Amsler should be able to win two firsts in the Intercollegiates, judging from his past performances.

In the middle distance runs Jones, Terry, and Taylor will loom up strong and one of this trio should be able to score in the Intercollegiates in the half mile run. Wilcox also should he be able to get into condition should prove a strong man.

Pennsylvania's distance runners are not so strong, although Root, Haskins, and McConnell have showed up well in the cross-country running. Should these men improve Pennsylvania will have a winning team as in the words of Mike Murphy "Pennsylvania has a point winner in all other events."

Risley and Greene are first-class broadjumpers and Risley and Moffitt are strong high jumpers. Risley, the crack Mercersburg Academy athlete, is a host in himself having won several interscholastic championships. The team will be strong in this branch of field sports but in the weight events ex-Captain Boyd will be missed. Hollingshead is only a fair shotputter and Lamson, Bradley, and Luby are not point winners in the hammer.

Trainer Murphy will, however, set some of the big football men at work with the weights in an endeavor to develop a point winner in these events.

Swain and Kirkpatrick are the only old men in the pole-vault. Both of these men have cleared 11 feet in competition and should improve. Risley also has had some slight experience as a pole-vaulter, and may be utilized by Trainer Murphy.

In addition to the above-named men there is also the material from the Freshman class to draw from. Some prep. school stars included in the rolls are: Bonsack of Haverford; Lipschultz of Georgia, both sprinters; Sheppard, of Brown Prep., a distance man; Risley, Luby, and McCullough all of Mercersburg Academy; besides many others.

Trainer Murphy will give a series of indoor meets during the coming winter season in order to try out the new material in the University. The candidates for the team will be called out by Captain Amsler and Manager Geyelin of the team about the first week in January.

Obituary.

William McAllister Hendrie, D.D.S., '04, died on June 19, 1905, at the residence of his sister Mrs. W. F. Beggs, 18 Winthrop Terrace, East Orange, New Jersey.

Dr. Hendrie was born in Paterson, N. J., March 12, 1878. He gained his preparatory education in the public schools of his city, ending in the Paterson High School from which he graduated in June, 1896. After this he accepted a position in the Paterson Savings Institution as a clerk. In this capacity his pleasant disposition and attention to duty met with the ready approbation of the bank officials, so that promotion was rapid for him. However, he was not satisfied and so decided upon a professional career. With this object in view he resigned his position after five years of service and entered the New York College of Dentistry in October 1901. Here he was elected president of his class, freshman year. He also became a member of the Psi Omega Dental Fraternity in which he held office. After studying two years in New York Dr. Hendrie with many others decided to transfer to the Dental Department of the University of Pennsylvania. All during his senior year Dr. Hendrie was a sufferer with diabetes and Bright's disease, for the recovery from which no hope was given him. However he kept up a brave heart and attended strictly to his duties and graduated in June 1904. After three months vacation in the search for health, Dr. Hendrie opened offices with Dr. Luckey of Paterson. Here he secured quite a large practice but subsequently gave it up owing to failing health and strength. Everything that medical science could do to avert a fatal termination of his disease was done, all to no avail. Two weeks before his death, Dr. Hendrie gave up his office and went to visit his sister, in whose home he died.

By the death of Dr. Hendrie, the dental profession is deprived of an earnest, faithful follower with high ideals.

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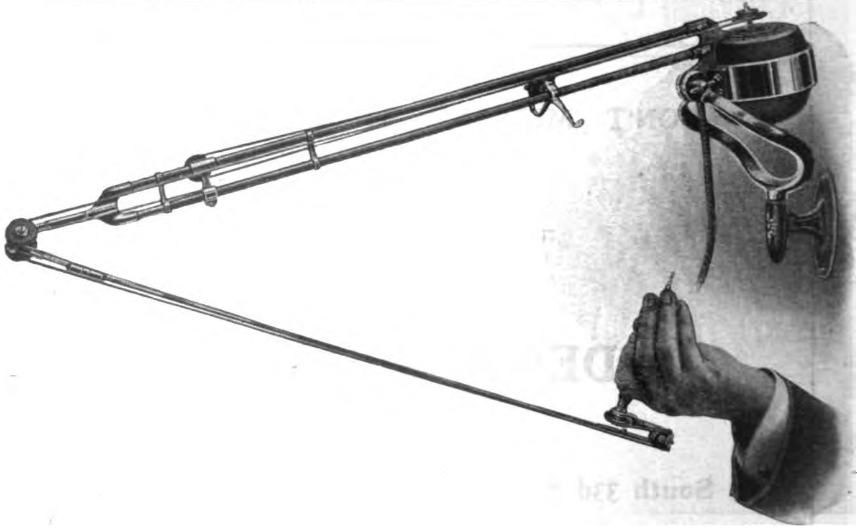

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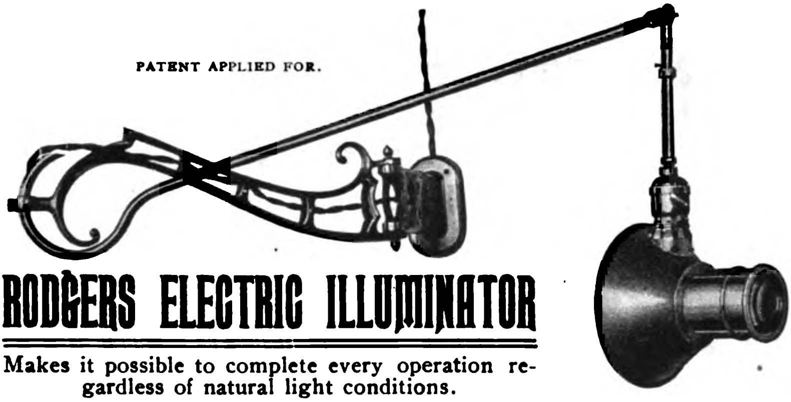

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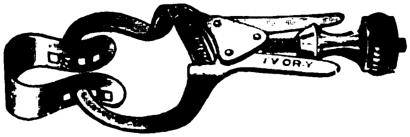

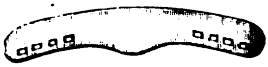

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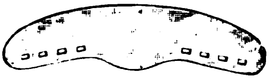

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Octangular Hand-Piece

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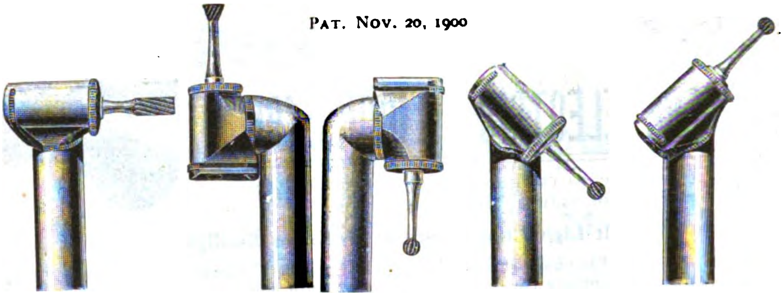

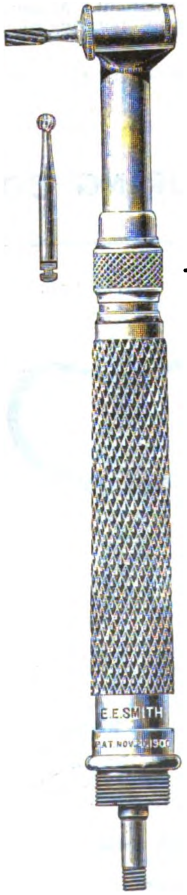

Fig. 1.—For Slip Joint Connection.

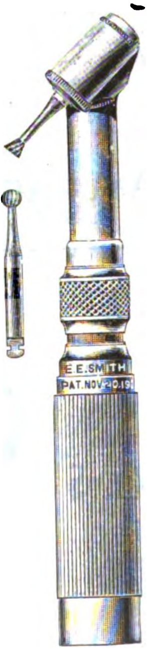

Fig. 2.—For Universal or Cone Journal Hand-piece.

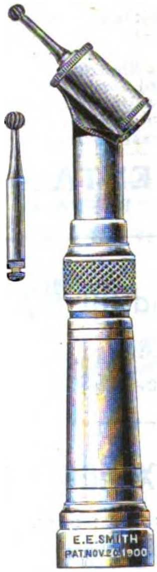

Fig. 3.—For Doriot Hand-piece.

This is the outcome of over 20 years' experience in the manufacture of Dental Instruments, and was originally perfected after months of diligent effort on the part of a skilled mechanic.

The advantage in the use of this improved Angular Hand-piece is to enable the operator to drill any cavity quickly and with ease. It turns completely around, ***locking automatically at eight different angles.*** It is made of the best material, strong, durable, and finely finished; has won its way to popular favor, and is indispensable to those who have once used it. It is now in use by many leading members of the profession, who speak highly of its merits. Try it and you will be another to testify to its value.

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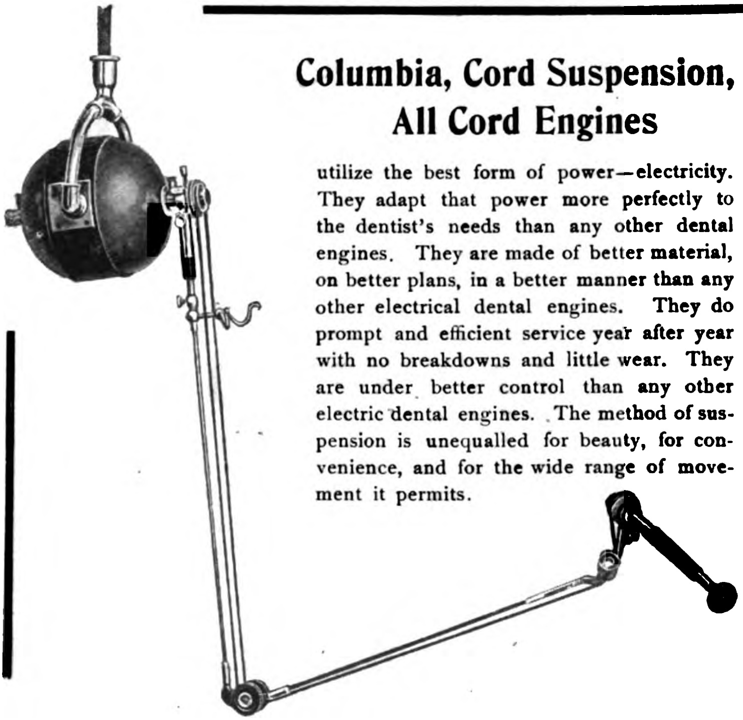

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utilize the best form of power—electricity. They adapt that power more perfectly to the dentist's needs than any other dental engines. They are made of better material, on better plans, in a better manner than any other electrical dental engines. They do prompt and efficient service year after year with no breakdowns and little wear. They are under better control than any other electric dental engines. The method of suspension is unequalled for beauty, for convenience, and for the wide range of movement it permits.

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MILK OF MAGNESIA

(MgH_2O_2.—FLUID.) "THE PERFECT ANTACID."

The only neutralizing agent known

that will maintain a continuous alkaline condition in the mouth.

The only reliable medicament

for inducing an alkaline reaction of the whole gastro-intestinal tract.

A BLAND, NON-IRRITATING, AGREEABLE, HARMLESS

ALKALINE ANTISEPTIC.

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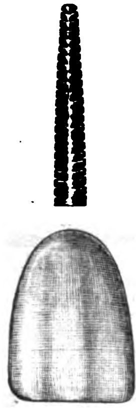
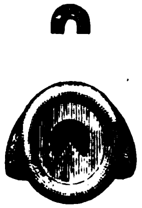
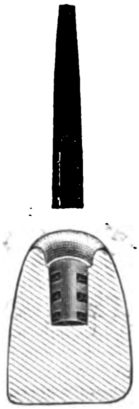
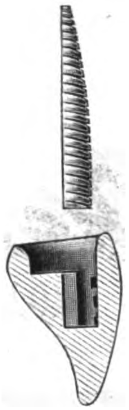
The Justi "Detachable Pin" Crown

PATENTED MARCH 6, 1900 D. R. G. M. 119,569









This crown is submitted to the Dental Profession with the utmost confidence that it will prove superior to all others.

It has all the admitted advantages of the detached pin crown without any of the objections.

RIGIDITY The shape, both of the cavity or recess in the Crown and of the base of the pin, cause the pin to be held rigidly; it can neither twist nor tilt.

STRENGTH The grooved undercuts in the Crown and the serrations on the pin make an absolute anchorage for the Cement; the pin therefore cannot pull out.

STABILITY The pin is a combination of platinum and silver, will not discolor the root, and will take the highest grade of solder. It is very much stiffer than platinum, is not brittle and can be bent to any desired angle without the slightest risk of cracking or breaking.

BEAUTY These crowns have the additional superiority of the Justi Porcelain and the Justi Shades, while the molds are worthy of our reputation, which means that they are unequalled.

The above advantages make the **Justi "Detachable Pin" Crown** the best porcelain Crown offered to the profession.

PRICES

	Retail	$25 lot	$50 lot	$100 lot
Each	.40	.37	.34	.31

100 Crowns, complete, in neat hardwood case, $35

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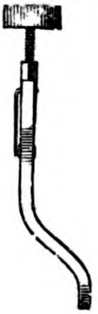
THE PHILADELPHIA UNIVERSAL SEPARATOR

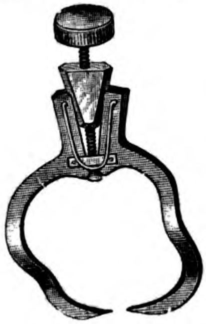
Superior To Them All

Will separate any teeth with least discomfort to patient.

Sent prepaid anywhere in the United States or Canada $2.00.

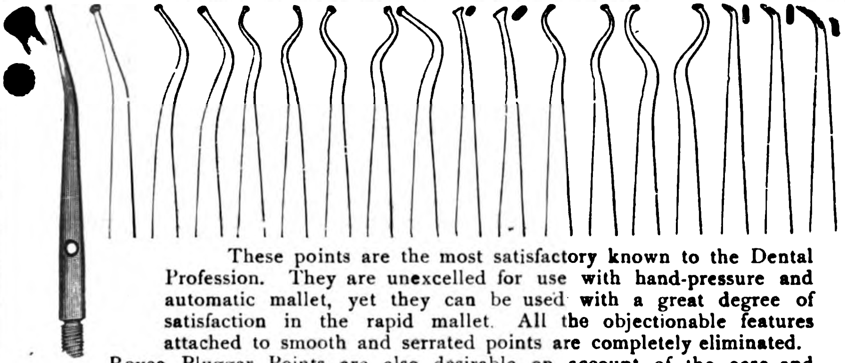


No. 1
Exact size of separator.



No. 2.
Bend of bows.

ROYCE PLUGGERS REVISED SET.



These points are the most satisfactory known to the Dental Profession. They are unexcelled for use with hand-pressure and automatic mallet, yet they can be used with a great degree of satisfaction in the rapid mallet. All the objectionable features attached to smooth and serrated points are completely eliminated.

Royce Plugger Points are also desirable on account of the ease and perfection with which gold can be manipulated with them. They are shaped and serrated as to allow the utmost freedom of movement of the point in wiping in the gold, and the extension of the serrations over the sides of the heads facilitates their "clearing" without dragging. There are no corners or sharp edges to catch the gold or dent the filling, and they cannot burnish the surface of the gold, so that the next piece will not cohere.

Special price to Students

Nos. 1 to 9 inclusive, ...	$0.45 each.
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Complete set, 18 instruments, ...	9.00 "

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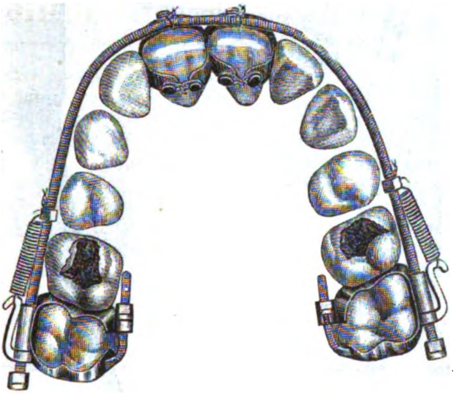
DR. M. A. KNAPP'S SYSTEM.



The interchangeable appliances devised by Dr. Knapp eliminate from the regulating of teeth the need for soldering parts, for taking impressions, and for making models.

When an anchorage band is once attached to a molar, for instance, it does not have to be removed in order to attach a new part to change the direction or character of the form applied.

You simply detach the old part and attach the new in a moment.

This is made possible by ingenious locking devices, which hold the parts to their work as firmly as if soldered, and without liability to be displaced or lost by the patient.

A large variety of sizes of bands, each of which is adjustable, makes it possible to fit a band to any size or form of tooth.

The force used in moving the teeth is direct and positive, and any kind of movement required is attainable.

Anything which can be accomplished with ready-made appliances is possible with these, and we have the experience of the dental profession for years as to the practically universal applicability of ready-made regulating devices.

Two selected sets, "A" and "B," will meet the needs of many cases.

The various appliances are plated to resist tarnishing, and because there is no heating or soldering, they retain their attractive appearance.

Catalog with illustrations of all the appliances and full description sent on application. A pamphlet, showing the wide range of usefulness by a large number of applications, free with each set, or sold at 25 cents.

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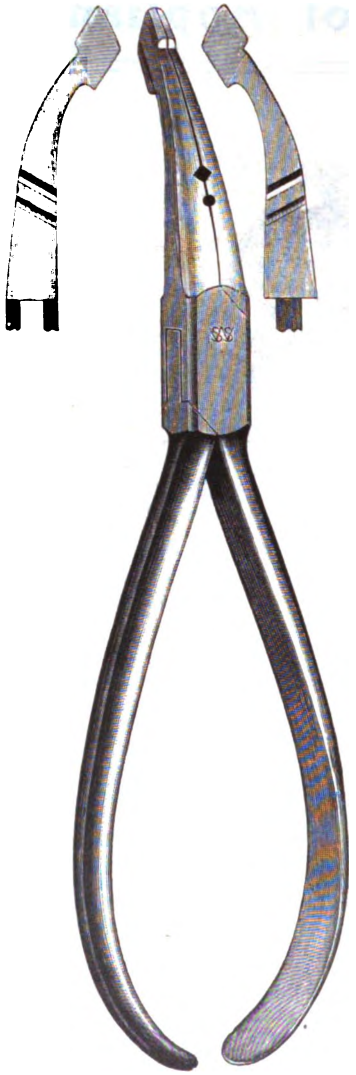
ANGLE'S

Band-Forming Pliers

Designed by Dr. E. H. Angle
Patented September 13, 1898



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These Pliers are especially designed for pinching or forming the plain bands about the crowns of teeth in regulating, or to the roots in crowning.

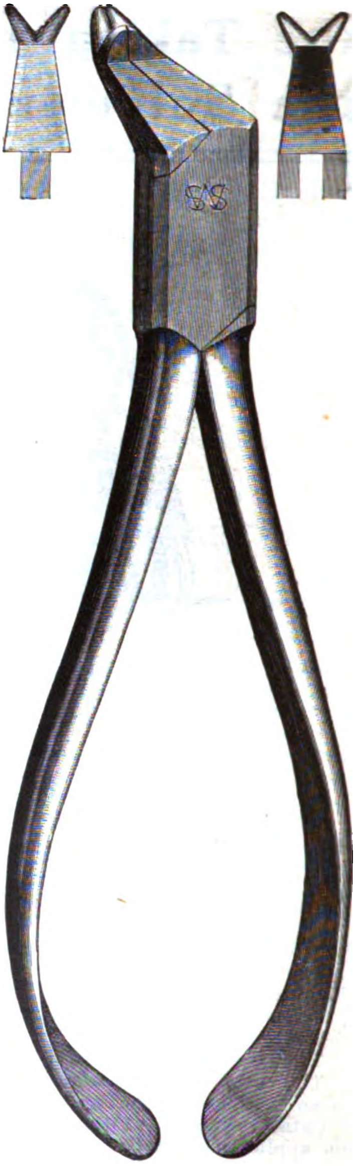
The angle of the beaks and the plurality of operating edges adapt them to forming the seam on the lingual or labial surfaces of teeth in either jaw.

Between the beaks are square and round grooves for holding round and square wire, etc.

Price ....each $2.50

Wire-Stretching Pliers

Devised by Dr. Edward H. Angle
Patented March 19, 1895



No. 124

Especially for pinching to lengthen wires employed in regulating the teeth. The peculiar form renders application easy in any part of the mouth. A little experience will render the operator skilful, and he will probably be surprised to see how much can be accomplished with them, in the adjustment of light annealed wire. They should not be used on hard or large wire.

Price ....each $3.75

The S. S. WHITE DENTAL MFG. CO.

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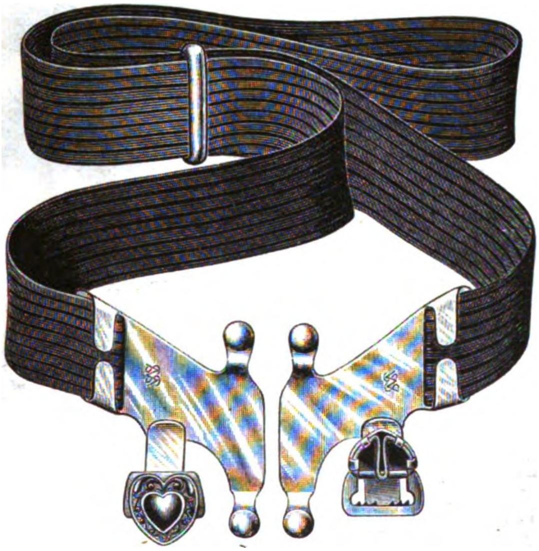
ASEPTIC RUBBER DAM
AND
NAPKIN HOLDER No. 7

Invented by DR. JOSE J. ROJO

Patented July 4, 1905. D. R. G. M. No. 242,088



The name "Aseptic" as applied to this new Holder has a real significance, because unlike other rubber dam holders, the elastic tape connecting the metal plates may be readily and instantly separated from the plates, thus enabling them to be disinfected by themselves. In this way the tape is not injuriously affected by the sterilizing process. This, perhaps, is the chief novelty of the new Holder, which with its other very attractive features should cause it to become a most popular article.

It is adapted to hold a napkin by means of spring clasps, so that the patient is not incommoded by frequent rearrangements, as he would be were the napkin loose. This also facilitates the work of the dentist himself.

The Aseptic Holder does not leave on the patient's face the "mark that won't come off." In fact, owing to its peculiarly novel shape it actually feels comfortable to the patient. Moreover, this new shape is designed to best receive the "pull" of the tape, and thus hold the plates in proper position. The dam is easily applied and adjusted by simply stretching it over the projecting ball ears of the plates. As these ears are widely spaced, the dam does not become folded, but on the contrary remains perfectly well stretched.

Price..$2.50

The S. S. WHITE DENTAL MFG. CO.

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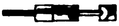
LITTLE GIANT SEPARATOR

Invented by **Dr. H. W. Gillett**

Design Patent June 28, 1898

No. 1



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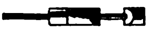

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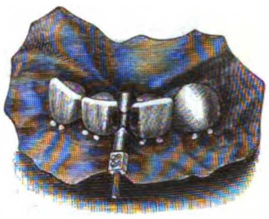

Small size, simplicity, and effectiveness are the special claims of this Separator to favor.

Its special use is in the immediate separation of teeth having small approximal cavities, though it can be used effectively wherever there is room to place it.

In use the nut and loose wedge are removed and the shaft passed between the teeth to be separated from the lingual or palatal side. The loose wedge is then returned to the shaft, followed by the nut, which is screwed up, forcing the wedges between the teeth till the desired room is gained. The nut is manipulated by a key or wrench, magnetized to enable it to pick the nut up readily. The round recess in the wrench is for handling the small, loose wedge of No. 1.

It is a mechanical "quick wedger."

Three sizes: No. 1 for use between incisors, Nos. 2 and 3 for bicuspids and molars. They may also be used as matrix holders. In matrix operations the Separator may often be applied without removing wedge or nut.

PRICES.

Set complete		$3.75
Separately, No. 1, No. 2, or No. 3	each	1.15
Wrench		.40

Dr. Wessels' Non-Conductive Cavity Lining

Dr. Wessels' Cavity Lining is non-conducting, non-irritating, impermeable to moisture, "sticky," and easily applied. It dries quickly, so that no delay is caused by its application. It has shown itself a reliable fender for the pulp through several years of widespread use, protecting it against thermal shock from metal fillings, or the possible devitalizing influence of some kinds of cement fillings in deep cavities. It penetrates the dentinal tubuli, and being a germicide, aids in preventing further decay.

Its principal uses are:

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THE
PENN DENTAL JOURNAL.

Vol. IX. FEBRUARY, 1906. No. 2

COMMUNICATIONS.

Crown and Bridge Work at The University of Pennsylvania.

Written for the PENN DENTAL JOURNAL.

BY DR. J. EDWARD DUNWOODY,

[Demonstrator in Crown and Bridge Work in the Dental Department of University of Pennsylvania.]

MY object in this article is not to discuss methods of crown and bridge work, but merely to write a short history of its development within my connection with the Department of Dentistry.

At that time (1886) bridge work was practically unknown, and the early part of that year the first banded or so-called Richmond crown was made for a patient by A. T. Webb, '86, now practicing in Rome, Italy.

During the session of '86-'87 I remember three crowns being made, one by a present demonstrator, Dr. Amend, who graduated that year. It was a crown similar to the ones now made without a band, by the Juniors, called by some a Darby crown, but not claimed by the Professor as original with him.

I well remember how the students watched the operation, crowding around the chair and followed Dr. Amend to the laboratory so as to see the whole operation. No technique work being thought of at that time to give an insight into methods before starting the work for a patient.

The following year the work seemed to be taken up by many, and during '87 and '88 a number of men did considerable work along these lines, Dr. Sullivan, '88, doing a great deal to demonstrate the possibilities of the banded crown. He was also very skilful in the construction of shell crowns. I frequently meet a patient of his wearing a bicuspid crown adjusted during his freshman year, proving the skilfulness of his work.

Bridge work at that time was not attempted in the clinic. My first recollection of the clinical demonstration of the branch was during the winter of '86-'87, when Dr. Melotte, of Ithaca, N. Y., gave a clinic at the department constructing and adjusting a bridge for one of the graduates, Dr. Uhler, and when I think of what Dr. Uhler passed through I wonder how he ever had the courage to submit to a final adjustment of the piece, as the methods were most crude and instruments little better, but it is from the persistent work of just such men that the profession today is in possession of the best methods and instruments for the work required.

The following year crown and bridge work went forward by leaps and bounds and where there were two or three men interested, '88 and '89 found them by the dozen, due largely to the work of Dr. Frederick A. Peeso. The work of this man needs no further comment here. The profession the world over knows of his skill and to what a high plane he has brought crown and bridge work. Who in '88 ever heard of a removable crown or bridge? While not common today, still they are not rare nor are the men who construct them rare.

Since '89 the men proficient in this line graduating from this institution have been many, among whom may be named White, Reitz, Nichol, Lincoln, Lane, Jarman, Gaylord, and Cameron.

The Materia Medica of Dentistry.

BY MELVILLE D. NESBIT.

[Read before the Edwin T. Darby Dental Society.]

Mr. President and members of the Edwin T. Darby Dental Society: I have chosen for my subject of discussion, "The Materia Medica of Dentistry," for the reason, that, during the coming winter, we will be favored with articles on probably all dental disorders from "pyorrhea alveolaris," "pericementitis" and "alveolar abscess," and through the whole list, with the possible exception of "green stain," for which the average student has an antipathy.

A modern definition of Materia Medica states that it is the science which treats of the substances used as medicines, and describes their origin, composition, physical characteristics, chemical properties, modes of administration and preparation, and their physiological and toxicological action, or their effects when administered in poisonous doses.

We have been taught that dentistry is a special department of the science and art of healing, embracing a knowledge of the structure, physiology, pathology, therapeutic, surgical, and mechanical treatment of the tissues of the mouth and its contained organs, also a knowledge of the materials used and their manipulation in the restoration of the dental and oral structure.

Admitting that the foregoing is a true statement of conditions, as it certainly is, it necessarily follows as a natural consequence, and is fitting and proper that the practitioner of this profession should have a very thorough knowledge of that portion of Materia Medica, which his peculiar position causes him to embrace.

It is a lamentable fact that the student of dentistry, as well as of medicine, has a very meagre definite and practical knowledge of the substances he prescribes.

This is particularly true in dentistry and personal observation affords convincing proof that a large proportion of our prescribers are anything but technical, and write a prescription that contains a mixture of technical words and the language of the laity, in order to make themselves understood.

In dental as well as medical therapeutics we administer and apply certain substances or agents to produce a definite result, and these substances we term drugs. Drugs are material agents of every kind used in the treatment of disease.

In dentistry, we apply medicines by the enepidermic method, or placing the medicament in simple contact with the skin, by the hypodermic method or injection with a syringe and by the cataphoric or pressure method. Drugs and preparations of drugs are all classified according to their uses and effects, and among some of the official preparations which we use in our profession are analgesics or anodynes or agents which are used to relieve pain, as cocain hydrochlorid, opium, carbolic acid, chloroform, iodoform, etc. Anesthetics or substances which temporarily cause loss of sensation as ether, chloroform, nitrous oxid, etc.

Antispasmodics or agents which prevent and relieve all muscular spasm and nervous excitement as the bromids, chloral, etc. Dentifrices or medicated pastes or powders employed, with a stiff brush, to cleanse the teeth and gums and should be antiseptic, sufficiently coarse to be cleansing, alkaline, and of an agreeable flavor.

Dental anodynes, or agents employed locally in odontalgia due to caries exposing a portion of pulp tissue, are aconite, opium, cocain salts, carbolic acid, creosote, chloral and potassium chlorate.

A solution containing the three first named, applied on a pledget of cotton, will promptly relieve whenever the pulp is accessible. Chloral should never be employed for this purpose, as in sufficiently strong solution to be of any service, it is very apt to cause sloughing of the gum, especially if injected thereinto by a hypodermic syringe, as is frequently done by ignorant individuals who advertise "the extraction of teeth without pain."

Irritants or substances which irritate the tissue and produce vascular excitement on part applied, as mustard, iodin, capsicum and turpentine, escharotics or caustics, are agents which destroy the tissue to which they are applied as arsenic, zinc chlorid, silver nitrate, corrosive sublimate, mineral acids, etc. Chromic acid is most efficient, but must be carefully used as it is a violent poison.

Styptics are substances which, when locally applied, check hemorrhage, as alum, zinc and ferrous sulphides, $Ag\ NO_3$, tannin, vegetable astringents and adrenalin chlorid.

In the practice of dentistry we are called upon to use probably more antiseptics and germicides than any other class of preparations. Antiseptics are agents which retard or prevent septic decomposition. Germicides and disinfectants are those which destroy the various animal and vegetable organisms living on the human organism, and among the many now in general use are mercuric chlorid, hydrogen dioxid, pot. permanganate, hydronaphthol, quinin, thymol, carbolic acid, creosote, alcohol, eucalyptol, iodoform, menthol, formalin and chlorids. We probably use more carbolic acid than any other, but H_2O_2 is a strong favorite with many. Carbolic acid, phenic acid or phenol, discovered in 1824 (a constituent of coal tar, obtained by fractional distillation) occurs in colorless crystals, deliquescent in damp air, soluble in fifteen parts of water, has sweetish taste, is an escharotic, powerful germicide and analgesic, which is a rare combination in one drug. It is also a powerful antiseptic, anti-ferment, deodorizer, disinfectant and coagulator of albumen. Locally it is a styptic, anesthetic, and escharotic. Its antidote is alcohol, followed by some oil. The analogues of carbolic acid are creosote, resorcin and pyrogallol, which possess some properties that render them in part more preferable. Phenol must not be confounded with phénol sodique, a proprietary preparation of phenic acid and sodium bicarbonate, by which its action is modified. A serious accident is recorded of a patient mistaking phenol for phénol sodique and using it as a mouth wash. The result was legal proceedings. Hydronaphthol is a powerful non-irritant, non-poisonous and non-corrosive antiseptic, soluble in alcohol, glycerin and water. It is twelve times as efficient as carbolic acid, thirty times as potent as salicylic acid, sixty times as powerful as boric acid, and 600 times as alcohol and is entitled to stand next to mercuric chlorid as a true antiseptic, and possesses many distinguishing properties which render its use more preferable than the former.

Corrosive mercuric chlorid or bichlorid or corrosive sublimate is a powerful coagulator of albumen; acid in reaction, metallic taste, powerful irritant, extremely poisonous, and effective parasiticide, and one of the most efficient of all antiseptics, but must be cautiously used. Iodoform, one of the most valuable agents in dental therapeutics, is a yellow solid containing ninety-four to ninety-seven per cent. of iodin, and is a local anesthetic, an analgesic and pronounced antiseptic, but has a very disagreeable odor, and applied too freely, may cause poisonous symptoms or conditions. Iodol has the same advantages as iodoform but is odorless, and is said to be devoid of toxic power, and either this substance, aristol or europhen can be used as a reliable substitute.

But as our time is limited, we will discontinue the further discussion of these substances. A very important branch of Materia Medica is that of the art of writing prescriptions. A prescription is a written communication from the prescriber to dispenser, relating to a number of drugs, stating the quantities of each, and indicates the form of the finished preparation, the number of doses and the frequency of their being taken or with which they are taken. It consists of the superscription, inscription, subscription and signature.

It is important that the practitioner have a thorough knowledge of the proper form and style of a prescription, and of the correct dosage of the substances he prescribes, and that it should be couched in technical language and not be a combination of English and everything else.

A patient is undoubtedly impressed with the knowledge and skill of a prescriber who can write a neat appearing, technical prescription, and especially one possessing merit. And to the mind of the pharmacist who often exercises a considerable influence over our patients, nothing appeals more strongly, or gives him more prestige. It is our opinion, publicly expressed, that the sooner the profession recognizes the fact that prescription writing is a powerful lever to sway public sentiment, just in proportion will they receive further recognition and honor.

It is earnestly desired that the members of our profession will acquire enough practical knowledge of this subject, so as to be able to construct and prescribe antipyretics and allied preparations, when occasion requires them, and not rely on proprietary preparations of this character, whose formula they are unaware of and whose action they can never positively foresee.

And in conclusion we wish to add, although it is somewhat of a diversion from our subject, that we consider it a duty as well as privilege of all practitioners to be as technical as possible and not deal with "toothache" and "clean teeth," but treat odontalgia or pulpitis and to subject teeth to prophylaxis when occasion requires.

So let us labor to the best of our ability and do the very best for our patients, and finally earn our reward and go to the place prepared for all good dentists who understand their Materia Medica.

The Use and Abuse of Hydrogen Dioxid in Dentistry.

BY GEORGE W. PULVER, '06.

[Read before the James Truman Dental Society.]

In writing on this subject it is not my intention to go into the history of hydrogen dioxid. In this connection it is sufficient to say that it was discovered in the year 1818.

Hydrogen dioxid, or hydrogen peroxid, is a clear, colorless liquid, without odor, slightly acid in reaction, and produces a peculiar sensation and a soapy froth in the mouth.

The chemical formula is H_2O_2. It is prepared by the action of dilute acids upon certain peroxids, principally that of barium. When hydrochloric acid is used the chemical reaction is expressed by the following formula:

$$2HCl+BaO_2=BaCl_2+H_2O_2$$

The H_2O_2 and $BaCl_2$ are in solution together and in order to separate them the $BaCl_2$ may be precipitated with Ag_2SO_4 leaving the H_2O_2. The reaction is expressed thus:

$$BaCl_2+Ag_2SO_4=BaSO_4+2AgCl$$

Of course this description is not intended to give the details of its manufacture but the general principles on which the process is founded.

The hydrogen dioxid commonly used in dentistry is a three per cent. solution. A twenty-five per cent. solution in ether, called pyrozone, is also used. The action is the same in all cases, the intensity of action depending upon the strength of the solution used.

The therapeutic value of this agent is based upon its powerful oxidizing properties. It is a somewhat unstable compound, parting with one atom of its oxygen upon coming into contact with organic matter. This nascent oxygen readily oxidizes any pus or dead organic matter with which it comes in contact, destroying or inhibiting the growth of any micro-organisms which may be present. Its action is mechanical as well as chemical since the effervescence resulting from its contact with pus causes much of the dead matter, etc., to be thrown off thereby thoroughly cleansing the part to which it is applied. But these qualities which make hydrogen dioxid so valuable also make it a very dangerous agent in the hands of a careless or ignorant person as we shall explain later. The unstable character of the agent must be kept in mind because if allowed to stand too long it gradually loses its oxygen and becomes worthless. If it becomes heated above ordinary temperature, 62° to 70° F., it rapidly gives off the oxygen sometimes causing a violent explosion.

It should, therefore, be kept in a cool place in warm weather, and should not be kept in large quantities.

Hydrogen dioxid may be used with excellent results in cases where septic matter is present, such as ulcers, abscesses and the like, provided there is always an opening sufficiently large to admit of thorough drainage and the prompt escape of the liberated gas. It is useful in treating the root canals of teeth if used in very small quantities upon cotton fiber or by any method which does not allow it to go beyond the apex of the root. Its oxidizing properties render it valuable as a bleaching agent, particularly in the form of pyrozone, but when used for this purpose the apex of the root must be hermetically sealed before the application of H_2O_2 is made. In combination with pumice it aids very materially in the cleaning and whitening of the teeth.

There are many more conditions where H_2O_2 can be used to great advantage, but enough has been said upon this point to indicate its general application.

Now let us see under what conditions the use of hydrogen dioxid is contra-indicated. It is well to remember that tobacco, carbolic acid, and narcotics hinder the giving off of oxygen thus impairing its effectiveness. For this reason carbolic acid should not be used in root canals, etc., before using H_2O_2. Again, upon coming into contact with ordinary metals, there is a tendency to give up a part of the oxygen hence it is best to use this remedy in a glass syringe where it is possible. These points may seem unimportant and yet it is attention to detail that determines our success or failure.

It is questionable whether H_2O_2 should be used in disease of the antrum since the opening is often not large enough to give free escape to the gas and the explosive force is sufficient to cause pain and sloughing which frequently happens when it is used for this purpose.

In alveolar abscess and in necrosis, in either jaw, but especially in the mandible, this agent is absolutely dangerous. Seen in cross section the mandible is found to be made up of an outer and an inner plate of compact bone giving the sectional view a U-shaped appearance. The space between these plates is filled with cancellated tissue. When an alveolar abscess has been opened into the root canal of a tooth, no fistula having been formed, and H_2O_2 is injected it strips the pericementum from the root of the tooth, cutting off nutrition from the cementum, and thus causes necrosis of that tissue. It also strips off the periosteum lining the socket and produces necrosis of the alveolar process. Aided by gravity it works downward into the cancellated tissue of the body of the jaw and literally honeycombs that tissue by the force exerted by the liberated gas which has no adequate means of escape. The same effect on the cancellated tissue is produced by its use in the treatment of necrosis of the mandible and since in this disease the quantity of H_2O_2 used is usually larger than in alveolar abscess the effect is correspondingly greater. These statements are conclusively proved by the numerous cases which have been reported by various authorities.

Time does not permit a long discussion of this subject but it is to be hoped that enough has been said to make clear the underlying principles to be kept in mind when using this agent.

Where its use is indicated it is an invaluable remedy; when abused there are few more dangerous agents in dental therapeutics than hydrogen dioxid.

Why is the Calling of the Dentist not Ranked as High by the Public as that of the Medical Practitioner?

BY A. SALGO, '06.

[Read before Edward C. Kirk Dental Society.]

If we glance over the history of dentistry, especially over that part of the last century, and consider the discoveries and the efforts concentrated in these discoveries to eliminate the sufferings of humanity, we can't help but ask ourselves why it is that the general public and even our medical brethren do not recognize our profession the same as they would any other branch of the healing art? Members of our profession are spoken of by the public and even by medical men as "He is only a dentist." Do they understand what humanity owes to the dentist? Not only to the dentist of our times, but to the dentist of the past, for it was a dentist who laid the foundation of modern surgery by first introducing general anesthesia. Dr. Horace Wells of Hartford, Conn., first introduced nitrous oxid in 1844. In 1846 Dr. D. W. T. Morton, another dentist, a pupil of Dr. Wells, introduced ether. How much suffering was eliminated and how many lives saved by the discoveries of these two men! yet, they were dentists and have lived as such. How many old errors have been corrected since, by surgical operations which could not be done without general anesthesia! What would humanity be today with only the speculative science of general medicine? I use the term speculative science, as general medicine without surgery is nothing else. The diagnosis is founded on symptoms and the treatment largely guess work. Imagine the treatment of suppurative appendicitis or that of a cancer of one of the internal organs by the use of medicine only. You may just as well treat a badly impacted third molar with castor-oil.

Ridiculous as this sounds, such or similar to this must have been the treatment of the above-mentioned diseases by medicine, prior to the introduction of general anesthesia, and, to a dentist is due the credit of introducing it.

I have mentioned this to prove that even so far back as 1844-46 we had men in our profession who deserved to be called scientific men. Today we point with pride to such men as Miller of Germany, Williams of England, our own honorary president, Dr. Edward C. Kirk, and many others. The work of these men alone should have given dentistry an equal standing with medicine, at least in the judgment of those who claim supremacy. Now let us see whether our operations are not just as essential to maintain the health of the public as the treatments of the medical men.

We have been instructed in our institution that the same way as malnutrition is a predisposing factor in the establishment of a pathological denture, so may a pathological denture and a diseased mouth be the predisposing and even direct factor of systemic troubles. We all know that an abscess of a tooth may cause general pyemia, septicemia and even death.

Do our medical brethren know this as well, and if so, how is it that they pay so little attention to the condition of mouth and teeth when they prescribe medicine? People read so much about bacteria nowadays, that a few plain words in this respect would convince the average patient of the importance of a healthy mouth and the absolute necessity to consult a dentist regularly. Such advice given in good faith by a medical adviser would improve the hygienic condition of their patients, and at the same time elevate the standing of the dentist in the community. This would do away with the erroneous idea of the people that the only function of the dentist is to extract and fill teeth or make artificial dentures. The people of average intelligence would soon learn that dental operations are necessary not only to preserve the teeth, but to prevent disease of the body; and if an ounce of prevention is worth a pound of cure then the calling of the dentist would soon be ranked as high as that of the medical man.

The question arises now: can we expect the medical practitioners to fight our battles, as we live in a century in which everybody fights for existence? For this reason we can only expect such medical men to join us who have already passed the financial fight for existence and those who think more of their patients than of their own pockets.

I think that the education of the public in dental hygiene is the duty of the dentist, not individually, but collectively. We should organize all over the country and force a bill through the legislature which would secure as many dental inspectors for each district as it has medical inspectors. These dental inspectors should visit the public schools, and if they find unclean or otherwise diseased mouths, they should have the same power to keep the child out of school for dental diseases as the medical inspector does for any other disease. A similar inspection should be made of city and federal employees and those employed in hospitals. The average household can be reached best by the board of health, and as long as we shall not have members of our own profession there as well as medical men, we can't expect that anything will be done to teach the people the importance of a healthy mouth and a healthy denture. They will compel the public schools to sterilize the water and allow the children to drink it through filthy mouths.

Not until the people will have learned that a healthy mouth is the foundation of a healthy body, and that dental operations not only preserve the teeth but protect the body will they rank dentistry as high as any other branch of the healing art.

Beginning Practice.

BY S. G. SILVERS.

[Read before the Edward C. Kirk Dental Society.]

If there is one thing more important than another in practice building, in my opinion, it is to make a correct start, to form some definite basis as a guide to the future and then to be able to adhere to it. Some do not get started right and some if they do, tire of sticking to it before attaining the ideal they had in mind when they started. Remember the beginning is the hardest, but to one interested in the profession it is a pleasure. Patients will be few, we shall have ample time to work out the nice points, speed will develop with the building of the practice. Waiting will be tiresome and is no doubt the cause why some give up, they want to "get busy," as is the common phrase, but tide over this time and we are bound to pull through.

Try and develop a hobby or two, independent of dentistry if necessary, try as many as are congenial and that helps you to use time otherwise spent in waiting for patients. An occasional inexpensive pleasure trip which carries you away from your office will help to keep off the monotony of waiting and keep your interest from waning. After you have determined what your ideal shall be stick to it. What shall be our ideal? Not money, perhaps not an extensive practice. I'll give you one: a practice in which, no matter how large or how small, your patients are well taken care of; whenever you do anything do some good. Make a practice out of your first few patients, examine their mouths for the slightest deviation from the normal, make a diagram of the mouth and note everything upon it. Interest *yourself,* and in every possible way interest your patient, in his or her own mouth. Give them as much practical dentistry as they should know. Explain that you are filling their teeth incidentally, as it comes in the care of the mouth. Instruct them that it is of little use to fill teeth or do any other operation in the mouth, and then for them to walk out and neglect all rules of hygiene relative to the mouth. Tell them care must be incessant and how often in each particular case you want to see them, how you want them to cleanse their teeth, and the mouth wash you want them to use; be insistent as their professional advisor, first and always.

Watch closely and often *how your work is doing*. Impress upon each patient that mutual co-operation is the thing necessary to accomplish the highest results, and you will soon develop more interest in your practice than simply filling teeth will impart. Your practice will be more *your own* when your patients realize what you are trying to do, and your sincere endeavor will be appreciated by them.

Develop tact to handle "all sorts and conditions of men." Beside your educational training, your individuality counts; no doubt the latter will have the greater bearing upon your success and will bring you a larger practice; while the former will be more for the good of those who go to make up that practice; therefore blend both nicely together, your educational qualifications and a pleasing individuality; in addition be neat and cleanly, make your environment pleasant.

Impressions you are able to make upon your patients as a dentist count and those you are able to show as a man, count. Your character already formed, it is your individuality and your tact which should be trained to inspire confidence in your patients.

You should strive for a family practice; when children present they naturally feel timid at seeing strange surroundings. A child brought up in a home in which there is a dental office will no doubt think the various instruments are grand playthings, while another seeing the paraphernalia for the first time is frightened before it is hurt. Have tact with these children, try and make them feel like the child brought up near the dental office, try and develop a sincere liking for them, in yourself. Patients grown up who have been child-patients make secure ones.

It is natural that we should choose among our patients and have preferences, but it is not good policy to show it. Those to whom you may have shown dislike or impatience, are possible precursors of long lines of patients who might be desirable and who might have become a part of your practice. On no account show temper; less feel it. What a splendid thing is good nature; in others.

Some patients have teeth sensitive to cutting yet try to, and do stand the pain. On such teeth cut quickly and with precision as we are taught in the clinic. You will show considerable fortitude by telling your patient, "just a minute," perhaps when it is your own tooth it will be "wait a minute." I have sensitive teeth.

There is much in handling patients difficult of teaching. There is one element, though it does not belong in the teaching of actual operations which affects a practice much, and that one element is pain attending dental operations. More patients would go to the dentist, and *oftener,* if it were not for the pain that they dread when the next call at the office is due. Perhaps beginners not having sensitive teeth themselves, cannot realize to the *fullest* extent what it means to a patient when some of these operations are in progress.

We are too apt to attempt metal fillings without enough consideration of these elements. One patient may be quiet under such operations, struggling to be so, and another may be what some operators call "fussy," but there is little question that both are affected the same as concerns the returning to have the experience repeated.

Use judgment in what you attempt, also in what should be attempted. Experience will teach us as we go on. To patients who tell you how to do the work give consideration, then do it your own way in accordance as you have been taught.

Do not cause extreme pain; be methodical during your operations, and have your work stay.

Fractures of the Mandible.

BY BERNARD WESBECHER.

[Read before the James Truman Dental Society.]

WITH the exception of the superior internal surface of the articular process, practically the whole of the inferior maxillary bone may be palpated. Fractures of the inferior maxilla are caused by direct violence. The seat of the fracture will be determined by the force and direction of the blow, by the location of the teeth in the jaw, by the presence of any foreign body between the teeth (such as a pipe) and by the presence or absence of muscular relaxation. Fracture of the base of the skull through blows on the jaw are more likely to occur if the mouth is open. Fractures of the body of the bone are common; of the ramus behind the molar teeth, rather uncommon; of the condyloid and coronoid processes very uncommon. Excepting those of the condyloid and coronoid processes, fractures of the inferior maxilla almost always open into the mouth. They occasionally open through both the mucous membrane and the skin.

Examination. Even when the patient cannot open the mouth sufficiently to admit the examining finger, palpation of the body and ramus of the jaw with one finger in the cheek and another upon the chin will often reveal the seat of fracture.

Symptoms. Pain, crepitus and abnormal mobility may be present. Immediate swelling of the gum appears at the seat of fracture. Teeth contiguous to the fracture of the body of the maxilla will be either displaced or loosened. The displacement of the fragments in fracture of the body and ramus will be most easily detected by noticing the differences in level of the teeth on each side of the fracture. The face appears swollen. After a few days the sub-maxillary and adjoining cervical lymphatic glands become enlarged. The salivary secretions are increased in quantity and because of the disinclination to painful swallowing, the saliva dribbles out of the mouth. If the fracture opens into the mouth, suppuration often appears and pus mingles with the saliva. Particles of decomposing food between the teeth and in the spaces outside of the jaw between the cheeks add to the bacterial pabulum. After a few weeks necrosis of bone may occur at the seat of fracture with abscess formation. These abscesses, often difficult to manage, occupy the region of the body of the bone. On the other hand with proper treatment and with less difficult cases the course of the healing process is simple and of easy management. Suppuration is prevented, there is no necrosis, and the repair of the fracture takes place unhindered.

Treatment. The primary object of treatment is the preservation of the natural alignment of the teeth. This object is attained by a complete reduction of the fragments of the fractured bone. Having reduced the fracture it is most important to make the reduction secure to hold the fragments in proper position.

In a fracture of the body of the jaw the bone is held in proper position by means of an interdental splint. Before taking an impression of the teeth in plaster the mouth should, if possible, be put in a clean and healthy condition. After taking the impression a cast is made. The lines of fracture are clearly indicated upon the cast. With a fine saw the cast is cut upon these lines and the lower teeth are articulated with the plaster cast of the upper jaw. Plaster cream is used to hold the sawed portions together. The fracture has now been reproduced and reduced in plaster of Paris. Dies and counter-dies are made and a splint swaged out of gold, silver, German silver or aluminum. The splint is cemented into place. The deformity is corrected and comfortably prevented from recurring.

Fracture of the Ramus Just Behind the Molar Teeth. The displacement is hard to correct. The fracture is usually oblique from before backward and downward. The body of the jaw drops downward and backward and the ramus slides forward. No dental splint is practicable, because there are no teeth on one side of the fracture to hold the splint. Reduction is accomplished by pressure backwards upon the ramus with the thumb in the mouth and a simultaneous lifting forward and upward of the body of the jaw. Reduction is maintained by an outside pad and metal chinpiece and a buckle and strap splint. By careful and repeated adjustment of the bandages and padding after a few weeks even in the most obstinate cases, the parts will be found to be in good apposition with the teeth articulating.

Fracture of the coronoid and articular processes is to be treated by simple immobilization of the jaw.

These various methods of immobilization mentioned may fail in some unusual fractures, if so, suturing of the fracture through the bone with silver wire should be undertaken.

Paul Revere a Dentist.

BEFORE the revolution Americans were turning their attention to dentistry, the profession being followed by one of the most famous figures in American history—Paul Revere, who made the famous ride to Concord on April 19, 1775. The following announcement may still be read in the old Boston Gazette of December 19, 1768:

"Whereas many Persons are so unfortunate as to lose their Fore-Teeth by accident, and otherwise, to their great detriment, not only in Looks, but speaking, both in Public and Private:—This is to inform all Such, that they may have them replaced with artificial Ones that looks as well as the Natural and answers the End of Speaking to all Intents, by Paul Revere, Goldsmith, near the Head of Dr. Clarke's Wharf, Boston. All Persons who have had false teeth fixt by Mr. John Baker, Surgeon-Dentist, and they have got loose (as they will in Time) may have them fastened by the above, who learnt the Method of fixing them from Mr. Baker."

PRACTICAL SUGGESTIONS.

Soldering of Aluminum.—Herr Wagner of Berlin recommends the following for soldering aluminum and its alloys: He uses a flux formed of 80 parts stearic acid, 10 parts zinc chlorid, 10 parts tin chlorid. Any ordinary soft solder can be employed, but the best is that composed of 80 parts tin and 20 parts zinc. After the dentures to be soldered have been cleansed and passed through the flux, the soldering is done in the usual way.—Z., *Quarterly Circular.*

A Source of Failure in Approximal Fillings.—The removal of unsupported enamel is an absolute necessity, whether upon the occlusal surface, upon the buccal or lingual walls, or upon the gingival margin, not only because it has not sufficient strength to withstand the stress of mastication, but because it does not possess sufficient strength to build and condense gold against without fracturing or breaking under the force of condensation.—I. F. WALLACE, *Dental Era.*

Outline of Plate.—All plates should be worn as high as possible all around, but always higher over the canine teeth than elsewhere. To know where to locate the high points, use a pair of compasses and measure the teeth which are to be used, from the median line to center of canine, transfer the measurement to the die and from that to the plate and trim accordingly, dropping suddenly back of the high point to give free play to the muscles. —L. P. HASKELL, *Dentist's Magazine.*

Daily Massage of the Gum.—One of the most wholesome things that may be done after brushing, and to be done mostly, if not entirely, by the patient and daily, or should be—is massage of the gums. This may be done with the fingers pressing hard above the teeth and squeezing and working down to the edge of the gums. A little time spent each day with gum massage will result in those tissues becoming harder and more capable of resisting the incipient deposits, in fact, dislodging some that have got a foothold.—R. B. TULLER, *American Dental Journal.*

Repairing Fractured Casts.—A valuable method of repairing fractured plaster casts may be found in the use of celluloid dissolved in camphor and ether to a creamy consistency. A good quality of celluloid should be selected, and to it should be added a mixture of equal parts of ether and spirits of camphor. This combination dissolves celluloid rapidly, and should be added to the material until a solution of a creamy consistency is obtained. The preparation should be kept tightly corked to avoid its evaporation. When it becomes desirable to repair broken casts, the fragments to be attached should be well dried and both surfaces should be freed from broken particles. The surfaces should be coated with the celluloid solution, and after being pressed firmly, should be allowed to dry.—*International Dental Journal.*

Plaster of Paris and Paraffin Wax an Excellent Carving Material.—If you will take ordinary paraffin wax, melt it in a large spoon, and stir plaster of Paris into it while it is in a molten condition, you will find that it will make one of the nicest carving materials that you have ever used. Make it plastic by heating, apply it to the primary crown, and allow the patient to bite into it, and you have the cast.—J. Q. Byram, *Dental Register.*

Local Anesthesia.—In minor surgical operations the pressure induced by the hypodermic injection of sterilized water is often successful in producing local anesthesia.—F. P. Beadler, *Dental Hints.*

Lubricants.—An important fact to be borne in mind is that oil in a closely fitting long-bearing is a lubricant only when present in small quantity; in large quantity it acts as an adhesive. Little oil lets the machine go; much oil holds it fast.—*Dental Office and Laboratory.*

Separating Medium.—A good separating medium is made by dissolving paraffin in gasoline. Put in all that the gasoline will take up. To use, spread solution over impression lightly with a camel's-hair brush.—*Hints.*

Advantages of the Clasp.—There is an unjust prejudice in the minds of some patients, and also dentists, against the use of clasps. This is probably due to an improper knowledge of their advantages and disadvantages; also an insufficient knowledge of the mechanical principles involved and their practical application. The advantages of the clasp may be summed up in the statement that there is no method by which a partial plate denture can be retained with so much comfort and usefulness to the patient as with clasps. This implies that the conditions are favorable and that the method is properly applied.—GEORGE H. WILSON, *Dental Summary.*

Do not Use Dioxid of Hydrogen in a Maxillary Sinus.—I have been asked whether I would use dioxid of hydrogen in a maxillary sinus. I would say most emphatically, *no.* In the first place, unless you have secured two large counter openings in the antrum, you will produce tremendous pressure by the liberation of the extra atom of oxygen and cause your patient a great deal of pain and suffering; consequently I say no, do not use it.—*Pacific Dental Gazette.*

Removal of Devitalized Pulp.—Devitalize with arsenic and remove bulbous portion. Place over the stump a pledget of cotton saturated with four per cent. formalin. In three days the remnants can be removed with pliers, coming out in one piece like a tough string.—*Dental Register.*

Rust Preventive.—Paraffin oil is the best preventive against rust. Dissolve one part of the oil in 200 parts of benzine. Dry and warm the instruments and plunge into the solution. Work all points in the fluid to cause it to penetrate all crevices. Allow the benzine to evaporate in a dry room.—*Dental Digest.*

Contamination from Bad Teeth.—To drain, trap and ventilate a house for a man with bad teeth is waste of money for he pollutes the purest air as he breathes it, and contaminates the most wholesome food as he eats it.—WALTER WHITEHEAD, *London Paper.*

Food and the Teeth.—By building up the body we benefit all parts of the body, the teeth along with the other parts. Nature provided these organs for a purpose, recognize the purpose and use these organs; use your teeth.

The Meister Matrix is a very useful instrument. After an amalgam filling is inserted with it which requires an all-around matrix—the ends of the matrix can be separated from the clamp or holder and then tied with a strong ligature and allowed to remain until the following day, when it is removed and the filling shaped and polished.—*Western Dental Journal.*

Sterilization of Cutting Instruments.—Of 50 prominent surgeons who were asked their practice in the sterilization of knives and scissors by H. A. Royster (*Annals of Gynecology and Pediatrics,* February, 1905), 20 boil them, 2 use dry heat and 21 use chemical agents, chiefly carbolic acid, alcohol, or both. Many complaints are made of the ruining of cutting instruments by the process of sterilization. The author has made experiments to determine the effects of the various methods, and arrives at the following conclusions: (1) Knives can be safely sterilized by chemical and mechanical means without the use of heat in any form. (2) The majority of American surgeons are using carbolic acid, or alcohol, or both. (3) Immersion in 95 per cent. alcohol has the least and boiling the most effect in dulling the edge of a knife.—*Detroit Medical Journal.*

At St. Winifred's Hospital, San Francisco, Dr. Winslow Anderson uses 5 per cent. formalin in absolute alcohol for all cutting instruments.—*Pacific Medical Journal.*

EDITORIAL.

The Tripod of Organization.

ORGANIZATION is a connection of parts in and for a whole, so that each part is, at once, end and means. This may apply to animal life, the degree of perfection depending upon the extent to which organization is carried, and it is also applicable to the social and political life of man. It is to this side of the subject that we wish to call attention.

It requires little thought to make it evident that organization is necessary to human progress in any and all of its various manifestations. It is the man with the most perfect physical organization who wins fame in the athletic contest. It is the man with the highest mental organization who writes the book that lives forever, or who invents the machine which raises civilization a step higher. It is the degree to which organization is carried which distinguishes a civilized nation from a tribe of savages.

Organization involves the same principles whether it is applied to the individual, the community or to the nation.

There are three factors which are of vital and equal importance in our professional organization. The first of these is the school. Just as a nation's progress and prosperity can be accurately determined by the number and quality of its schools so can the progress and standing of dentistry as a profession be measured by the character and quality of its educational institutions. Here it is that we become acquainted with the thoughts of those who are in advance of us on the road of learning, and what is of still more importance, we acquire a habit of correct thinking, of accurate reasoning, the value of which can scarcely be over-estimated.

In connection with the school, and of equal importance, we come in contact with another phase of organization, that is, association. Not indivdual association alone, but also in the form of class, literary and social organizations. Here we unconsciously broaden our ideas and get the training which makes it easy for us to take an efficient part in the greater associations of which we will become members in after life. These associations hold an important place in modern civilization, especially in professional circles, and our usefulness is largely determined by our ability to intelligently participate in their activities.

Finally, with the school and association we have the journal When a man writes an article for publication he knows that it will be read and criticised by others. He therefore gives much time and thought to the collection and arrangement of his facts and ideas. He is stimulated to make researches and record the results of his work and observations. This incitement to deep study and the making of careful observation and records is one of the great benefits derived from the work which is always necessary in preparing articles for the journal. But this is not all. Without this medium the knowledge and benefit derived from the school and association would only directly benefit those of the present generation and would not, even then, be far-reaching. But by means of the journal the knowledge gained by ourselves and those before us may be disseminated and perpetuated.

It is to these three factors that dentistry is largely indebted for its present standing as a profession, and under the influence of the harmonious co-operation of these factors it must necessarily continue to rise because through them our ideas have become valuable and we have the power to impart them to others of our time and to hand them down to future generations.

Here at the University we have these three fundamental elements of organization in miniature, but none the less perfectly, demonstrated. If we are wise we will take a lively interest in them and an active part in their workings, so that from the experience here gained we shall be equipped for our activities in professional life in which these same agencies are the most powerful instrument for the advancement of our profession.

Personality.

When we speak of a person we almost invariably say something about his personality, or if it is not directly mentioned we indirectly, almost unconsciously, allude to this subject. Now what do we mean by personality? Coleridge says, "Personality is individuality existing in itself, but with a nature as a ground." To the average individual personality is an indefinable something about a person which distinguishes him from all others and which largely determines our attitude towards him.

But what has all this to do with us as dentists? It is a well-known fact that the great man in any sphere of usefulness is the man who possesses a strong personality. Then is not his personality in a large measure responsible for his success? But all men are not blessed with a strong and pleasing personality. True, but why not cultivate one? We believe this to be both possible and practical.

We have the whole human family for a text-book and by making a careful study of those around us we can decide just what it is that makes one person pleasing and interesting and another the opposite. However, in doing this we must not forget ourselves. The trouble may be in us and not in another. We will never find a more interesting subject for study than the ego because it is something from which we cannot escape and the sooner we become thoroughly acquainted with ourselves the better. Then we can set about correcting our faults and cultivating our merits, at the same time avoiding the bad and taking the good we have found in our study of others. In other words we begin a systematic process of character building, for personality is after all largely a reflection of character. By cultivating in ourselves the good qualities of others we do not wish to imply that one should give a parrot-like imitation. Such a course would result in loss of personality and even a displeasing personality is better than none at all. What we should do is to collect our information and from it construct in our minds an ideal personality and then strive to attain it.

For our purposes the ideal personality is embodied in the one which shows a proper proportion of gentleness and firmness, a personality which will at once inspire confidence and respect; pleasant without being frivolous, dignified without conceit, and above all it should be the expression of a high personal honor coupled with a spirit of equity in all of our social relations.

THE DEPARTMENT.

Dr. Cryer Addresses Dental Teachers.

At a meeting of the Institute of Dental Pedagogics, recently held in New York, Dr. Matthew H. Cryer, M.D., D.D.S., Professor of Oral Surgery at the University of Pennsylvania, delivered an address on "Applied Anatomy of the Face and Oral Surgery: How They Should be Taught."

Dr. Cryer prefaced his address with the following quotation from a former paper on "The Practical Teaching of Anatomy in Dental Schools." "Let it be borne in mind, as a general proposition, that there is something more in teaching than merely standing before a class and lecturing upon a given subject. It must be presented in such a manner that the student shall grasp it—shall make his own the information which the teacher imparts. Instruction embraces reception by the student as well as presentation by the teacher; this dual quality is the object and essence of teaching in the correct sense of the term. Any method which does not have that result—the instilling and installing in the mind of the student a clear, definite knowledge of the subject —is a failure." He said that in order to successfully teach a subject it must be presented in an attractive and interesting manner, and that the practical side must be taught in order to excite the student's interest in the lectures and demonstrations.

He stated that he had found by experience that better results were obtained by using several methods of presenting the same subject, one of the best ways being by means of photographic slides of specimens thrown upon the screen with a projecting lantern.

Another method that he had found effective was that of teaching by comparison, first establishing the ideal or typical form of any structure, whether it be of a single cell or the combination of many cells which enter into the formation of larger structures. For example, he advocated the study of typical skulls and afterward the study of atypical ones in order that the student might become familiar with the variations which normally occur.

Pathological conditions, he said, should be taught in the same way. First establish the typical pathological structure, beginning with the cell, then of the entire formation. This he teaches by clinical demonstrations.

Dr. Cryer then presented a number of photographic slides by way of illustrating his methods. He then said that demonstrations and instructions were given to the dental students that pathological conditions of the teeth and surrounding tissues may and do produce serious results, not locally alone, but in parts far removed, especially in the regions supplied by the same system of nerves, blood-vessels and lymphatics. To illustrate this point two practical cases were described.

Case No. 1 was that of a man 66 years old, who had considerable trouble in the right ear, with a constant discharge of pus from the upper and central portion of the right body of the mandible. Through exploration with an excavator an impacted tooth was diagnosed. By means of an X-ray picture and the knowledge of the difference between normal and pathological conditions of the jaw a good diagnosis should be made on which to base proper procedures for the removal of the offending body.

Case No. 2 was that of a young lady who had been suffering for about a year with general weakness, severe pains in and about the face, head, and neck; dizziness, fainting spells and other disturbances. Exploration with a dental excavator and an X-ray picture revealed impaction of the lower right third molar. The second molar was extracted in order to make the operation shorter and save loss of blood and the impacted tooth was removed with comparative ease.

All of us who are familiar with Dr. Cryer's methods of teaching and the results he obtains by these methods must unhesitatingly credit him with being one of the real teachers of dentistry.

Announcement.

Upon the arrival of the time for the regular meeting of Dental Alumni Society of the University of Pennsylvania in June next, that organization will have reached its quarter century mark,—created, as it was, only a few years after the Dental Department came into existence. It has weathered through its years of early life, has had its vicissitudes of cloud and sunshine, its times of adversity and prosperity, but through all it has never ceased to grow; and we believe that no other alumni body of the University of Pennsylvania can, at the present time, show an amount of University spirit, loyalty, and integrity of purpose equal to that of the Dental Alumni Society. In the matter of furthering the general welfare and good of the University we feel confident that the race has been won by the Dental Alumni Society, and that it will continue to be a winner.

For the next regular meeting it has been deemed appropriate that an extra program be arranged to fittingly celebrate the Silver Anniversary of the society. In order to get the general consensus of opinion, as far as is possible, regarding such a program, a committee has been appointed by the president, to congregate as many alumni as possible at some suitable time prior to the time of arranging for any extras that this anniversary program shall contain. To this end an informal luncheon will be arranged for the evening of February 22d, at some suitable hotel in this city. Subscription will probably not exceed one dollar. Notices conveying more definite information regarding place, hour, and remittances will be sent in due time.

It is supposed that many of the Dental Alumni will visit Philadelphia on University Day (Feb. 22d) and that all such will be glad to have an opportunity to "meet the boys" at a luncheon, talk over the past and arrange for the future. We would, therefore, invite all to join us and have a good time.

GEO. C. PARRY,
O. G. L. LEWIS,
J. G. LANE,
Committee.

The Reflectoscope.

THE Department has recently installed a new piece of apparatus known as a reflectoscope by means of which the reflections of casts, dentures, pictures in books, etc., as well as the ordinary glass slides may be thrown on the screen.

Dr. Turner has classed the instrument in the feminine gender because it is rather difficult to manage and one never knows just when it is going to balk, but when it is in good humor its behavior is all that could be desired.

Dental Record Staff.

At a recent meeting of the Class of 1906 it was decided to publish a class record and the following staff was elected:

George W. Pulver, editor-in-chief.

Stanley W. Spicer, John J. Brosnan, assistant editors.

Bernard Wesbecher, Thos. F. Sherlock, E. Z. Kreidel, associate editors.

Ward M. Van Ness, business manager.

Joseph Wagner, assistant business manager.

Stewart B. Gleason, Joseph N. Chandler, Edward Warren, associates.

DENTAL SOCIETIES.

Edward C. Kirk Dental Society.

A MEETING of the society was held December 7, 1905, at which a paper upon "The Rubber Dam and its Use in Dentistry" was read by Mr. J. Smith and discussed by Mr. Spicer. A paper was also read by Mr. R. Stevens entitled "Diseases of the Pulp," which was discussed by Mr. Holden. At the next regular meeting held December 19, 1905, Dr. Dunwoody, the guest of the evening, gave an interesting address on "Crowns." After a hearty vote of thanks had been tendered to the speaker Mr. Salgo read a paper entitled "Why is the Calling of the Dentist not Ranked as High by the Public as that of the Medical Practitioner?" At the meeting held January 11, 1906, a paper upon "Suppuration of the Pulp" was read by E. A. Smith, and a paper entitled "Beginning Practice" was read by S. G. Silvers. At this meeting the subject of a society picture was discussed.

James Truman Dental Society.

A MEETING of the society was held November 23, 1905, at which Dr. Jaco gave an interesting address on cavity preparation and the methods of preparing the mouth before beginning an operation. Mr. Pulver read a paper on "The Use and Abuse of Hydrogen Dioxid in Dentistry," which was discussed by Mr. Mallon and Mr. McPherson. At the next meeting, held December 7th, Dr. Gritman addressed the society on the use of the Gritman Articulator and the method of obtaining a correct articulation. Mr. Sharpless read a paper on "Canal Filling and Materials Used," which was discussed by Messrs. Marr and Roberts.

Mr. Adams read a paper treating on the "Contact Point" in fillings. This paper was discussed by Mr. Brosnan. At the meeting held January 4th, new members were installed. Mr. Kennedy read a paper on "Porcelain Inlays," discussed by Mr. Barker. A paper was read by Mr. Wesbecher on "Fracture of the Mandible," discussed by Messrs. Wagner and Bendernagel.

French Society.

L' AMICALE Française de l' Universite de Pennsylvania held its first meeting Wednesday, January 3d, in Houston Hall. Dr. Kirk, honorary president of the French club, presided and was the speaker of the evening. He spoke of the progress of dentistry which made necessary constant study by the practitioner, of the importance of the scientific aspect of the profession as well as the technic work, the latter being, until recently, the only part to which much importance was attached. He then spoke of the external relations of the profession, of the great international movement which had brought about the International Dental Federation, the part taken by France in its organization, and of its great value to dentistry in the future. Dentistry in respect to this type of organization is in advance of the medical profession for we have in this International Federation the best means to bring all members of a profession from all parts of the world into closer contact and by that contact bring about mutual instruction to all. Dr. Kirk spoke of the sympathy he had for France and Frenchmen and expressed his admiration of the scientific and humane ideas of that country. He spoke of the pleasure he had felt when he read on the base of the statue of the great demagogue Danton, in Paris, the words "After bread, education is the first need of the people." They served to inspire the thought that the principles which govern human progress are not to be limited by provincialism or geographical lines—for they are the possessions of humanity, not of nations. Hence dental practitioners, and especially those interested in the scientific development of their profession, must become cosmopolitan in their mental attitudes, or, as Professor Osler had said in an address to the medical graduates at this University, they must become "denationalized" so that they might be able to appreciate the contributions which the workers of all nations are making to the common store of our knowledge.

The same general thought has recently been expressed by a distinguished citizen of France, Pastor Charles Wagner, the author of "The Simple Life." He says in a late issue of "The Outlook," in speaking of his mental attitude upon visiting America: "Yet I was not to observe as a stranger, for it never enters my mind to so consider either myself or anyone else; from my standpoint, nobody, nothing, is foreign. I do, indeed, belong to my own country, and I belong to it for good and all; but I also belong to that great Family out of love for which we wish all nations and all men well. With that disposition, I was, it seems to me, in the best of conditions to observe justly."

This should in principle be one of the guiding motives in our professional activities as well as our attitudes toward the ordinary affairs of life.

Dr. Kirk then thanked the club for having conferred upon him the honorary presidency which he accepted with pleasure.

In reply George Villain thanked Dr. Kirk in behalf of his countrymen and himself for the great pleasure his address had given them. He also thanked him for accepting the honorary presidency and for the interest he had always shown in the members, then in allusion to Dr. Kirk's speech he spoke of the love of humanity and science in this country and of the confidence they felt for the progress of dentistry in the future because their dental schools were based on these two ideas—the relief of human suffering and the instruction of the young. Mr. Villain assured Dr. Kirk that his words would be valuable advice to all of them, advice which they would follow to the best of their ability, and that they would always cherish pleasant memories of the evening.

At the next meeting of the club February 4th, Dr. Endelman will deliver an address.

Alumni Notes.

Dr. C. G. Comegys, president of the class of '02, was married to Miss Margie M. Lovejoy, October 17, 1905.

Dr. Chas. L. Moore, '00, who was located in this city, died November 21, 1905.

Dr. H. C. Sturtevant, '95, and Dr. J. B. Mader, '95, were recent visitors at the Department.

Dr. Wm. H. Bolton, '02, will locate at Seattle, Wash., where he intends to make a specialty of orthodontia.

Dr. F. E. McLaren, '98, of Manchester, N. H., visited the Department recently.

Dr. A. C. Spangler, '95, has been obliged to give up his practice in this state and go West on account of poor health.

On October 3, 1905, Dr. C. Bates McLain was married to Miss Gertrude Robinson.

Dr. James A. Milliken, '87, of London, brother of our assistant professor, Dr. Geo. G. Milliken, visited his family for the holidays and has departed on his way to Bombay, India.

Dr. A. D. Weakley, '94, has moved from New York avenue to 1339 K street, Washington, D. C.

Dr. O. W. Briner, '05, has located at 1486 Lexington avenue, New York city.

Dr. H. E. Trostel, '00, announces the removal of his dental offices from the Rupp Building to the Hay Building, 42 West Market street, York, Pa.

Dr. A. M. King, president of the class of '03, was a pleasant caller at the Department recently.

Dr. A. C. Lockett, '05, who has been taking the Angle course in orthodontia, will locate in London where he will make a specialty of that branch of dentistry.

Dr. L. H. Jones, '99, is now located at the United Bank Building, Broadway and Wall streets, New York.

THE UNIVERSITY.

Tenth Anniversary of the Houston Club.

THE tenth anniversary of the opening of the Houston Club occurred last Tuesday, January 2, 1906. The club has done more in the last ten years toward bringing about a democratic spirit of fellowship among the students than all previous efforts of the faculty. Although the club was organized in 1893, it was not until three years later that it moved into what is still one of the most handsome and spacious club houses in Philadelphia. For the information of our readers who have not visited the campus in the past ten years, we publish a number of articles on the Houston Club in this issue, in order that they may know what the club has done, not alone for the University of Pennsylvania, but for other universities also by stimulating similar enterprises.

Howard Houston Hall was the gift of Mr. and Mrs. Henry Howard Houston, as a memorial to their son, Henry Howard Houston, Jr., who died while a student in the college department. The building is 150 x 78 feet, and was designed by William C. Hays and N. B. Medary, Jr., two graduates of the Department of Architecture of the University (not then of age), in a competition, the first and second prizes being awarded to them. The building is a combination of the two designs; the exterior design of the second prize having been used unchanged. The design was developed and the work executed under the supervision of Frank Miles Day, with Messrs. Hays and Medary as associate architects. The style of architecture is inspired from early Elizabethan examples, and may be called "English Collegiate;" the material used is North Conshohocken and Indiana limestone. The building is three stories high. The interior finish is of quartered oak, in dark brown and green shades. Supporting the roof of the auditorium, on the second floor, are trusses of elaborate design, adapted from those in the Great Hall at Eltham Palace, Kent. The device so frequently used in a decorative way is an interweaving of Howard Houston's initials with the early Christian symbol of "The Lamb of God."

The approach to the imposing entrances on either side is formed by a broad marble terrace, which opens into a spacious vestibule, the next into a large reception room, in which everything is suggestive of ease and comfort. From the heavy beamed ceilings hang large chandeliers of dull brass; upon the walls, paneled with quartered oak, hang trophies of the hunt, and rare paintings and engravings; scattered over the room and around the open fireplaces are heavy oak chairs and settles, the highly polished hardwood floors are covered with oriental rugs. Everything about the club is suggestive of an invitation to dismiss for a little while all thought of study and work. On this floor are the writing room, library and reading rooms, and the billiard and pool rooms and the University postoffice and cloak room. The chess room and bowling alleys and book room are in the basement.

On the second floor, besides the large auditorium and the restaurant, are the trophy rooms, and the headquarters of the Christian Association. On the third floor are the offices of *Old Penn*, a dark room for amateur photographers, guest chambers and society rooms, and the club kitchen.

Among the interesting objects adorning the walls of the club house is a portrait of Henry Howard Houston, Jr., by Cecilia

Beaux; one of H. H. Houston, the donor of the building, by C. H. Beck; and one of Provost Harrison, by Henry Floyd. Scattered throughout the Hall are a number of tablets dedicated to the memory of eminent alumni. The splendid collection of framed photographs, which adorns the walls of the halls, illustrating masterpieces of architecture and sculpture representing the various schools of Renaissance painting, was selected and arranged by Mr. Frank Miles Day. The furniture, rugs, casts, etc., were selected by the Provost, Mrs. Harrison, and the architects. The club has a membership of more than 3,000, and is self-supporting.

G. E. N.

Sporting Notes.

THE interscholastic and intercollegiate relay races will meet on Franklin Field, April 28th. All high schools and colleges will be represented. Chicago and Michigan will send teams to the East to contest in this great event.

Columbia will not meet Pennsylvania in water polo until the latter part of March.

University of Pennsylvania is trying to persuade Harvard and Yale to drop the rough playing in water polo and adopt the English water polo.

The water polo matches are generally held at the University of Pennsylvania because of its fine and well equipped swimming pool.

At present Pennsylvania is making a good showing in training for the coming relay races. We are well represented in each event with the exception of hammer throwing and shot putting. But for this Murphy is working in some of the large football men, and when the event comes off we will not be found wanting.

The football world has not as yet settled upon any set of rules. It will probably result in heavier penalizing for roughness, more open plays, and stricter umpiring. The ten-yard gain is not as popular as at first.

Lawn Tennis.

THE Intercollegiate held at Merion C. C. this fall resulted in the victory of the University of Pennsylvania in both singles and doubles, and as a consequence two more points were added towards the possession of the cup which goes to the college first having seven points. The scores are at present: Princeton, 4; Pennsylvania, 3; Harvard, 2; Columbia, 1. The winners this year were expected from Behr (Yale), Niles (Harvard) LeRoy (Columbia), and Dewhurst (Pennsylvania), as these were the strongest players in the competition. At the last moment LeRoy dropped out leaving the other three to strive for the honor. Behr was looked upon as favorite, as he had been playing a great game through the season and had twice defeated Dewhurst, but the Penn player, with the aid of a rest and some good practice was showing his best form, as instanced by his defeat of Niles and Sulloway. The finals of the singles narrowed down to Behr (Yale), and Dewhurst (Penn), and a fine game was put up by both players. The Penn player took the first set by accurate side line play passing his opponent whenever he came to the net and keeping a fine length with much pace on his strokes with a score of 6-2. In the next set Behr made a fine pull and by brilliant play and fine volleying took the set 6-4. The next set was closely contested and at five games all every point was fought out until at last by some perfect placing strokes the Pennsylvania player took the next two games and the set, 7-5. In the last set Dewhurst had the lead at 3-1, only to lose the next two games by Behr's fine volleying, bringing the score to three all. Here the University of Pennsylvania champion made a series of fine shots and took the next game giving him the lead again. Once more the Yale expert came on and after a long game and many fine shots evened up the score. With four all it still stood at anyone's game, but here Dewhurst sizing up the situation changed his game entirely and running in off his service for the first time in the match had his opponent "rattled," and took that game and continuing his aggressive tactics netted the next game and the set 6-4, and the match and championship for the University of Pennsylvania, 6-2, 4-6, 7-5, 6-4. In the doubles the Penn team were also victorious. H. B. Register, a freshman, was chosen to play with Dewhurst and showed very good form and has the making of a good player in him. His team went through the competition without losing a set and won the doubles from Yale in the finals 6-0, 6-2, 8-6. Both men received the "P" from the association for the winning of the championship.

New Tennis Courts.

THE new tennis courts proposed to be built at the rear of the law school may now be looked upon as sure for next season. Already the money has been subscribed sufficient to justify the letting of the contract, and the courts will be in use next April. The subscription has been set down at $2 and the names of those students who wish to play should be handed in at once at the office where Mr. Reimold will receive the subscriptions. The other departments have subscribed very freely and therefore we trust that the Dental Department will not be backward in helping the good work along seeing that the Intercollegiate championship has been won twice by one of their own men. The lists will close on the 1st of February.

Exchanges.

IT gives us pleasure to acknowledge the receipt of the following exchanges: *Australian Journal of Dentistry, Dental Cosmos, Medico-Chirurgical Journal, Alumni Register, Le Laboratoire, Revista Odontologica, Dental Record, Dental Digest, Dental Summary, Dental Brief, Tydschrift voor Tandheelpunde, Western Dental Journal, Shikwa Gakuho, British Journal, Vierteljahresschrift für Zahnheilkurde, The Bur.*

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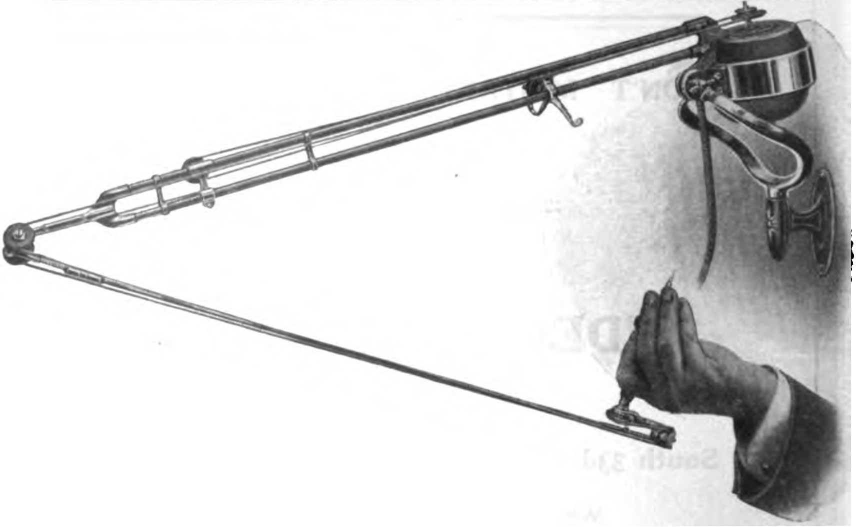

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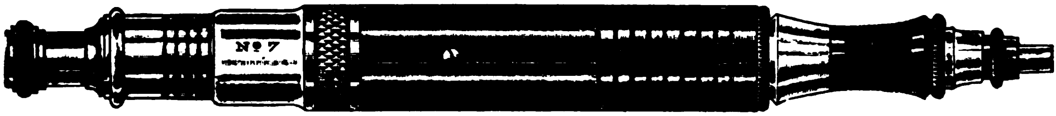

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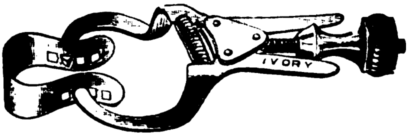

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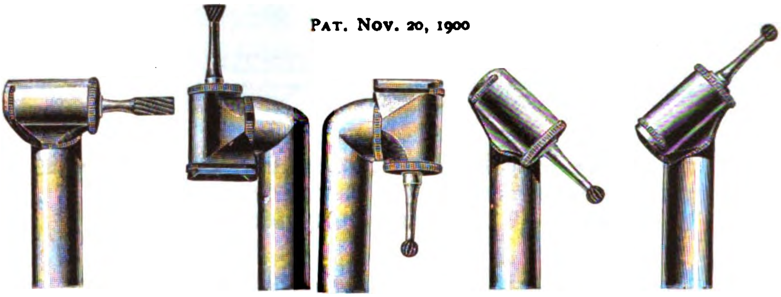

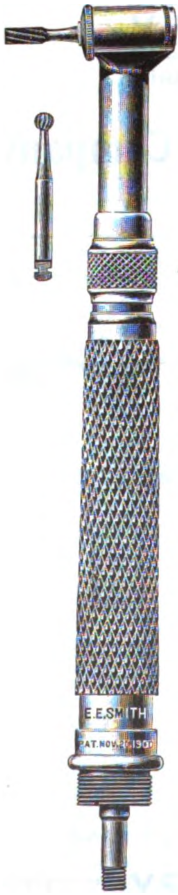

Fig. 1.—For Slip Joint Connection.

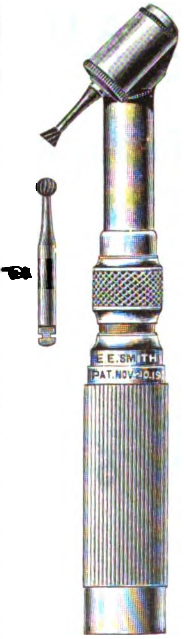

Fig. 2.—For Universal or Cone Journal Hand-piece.

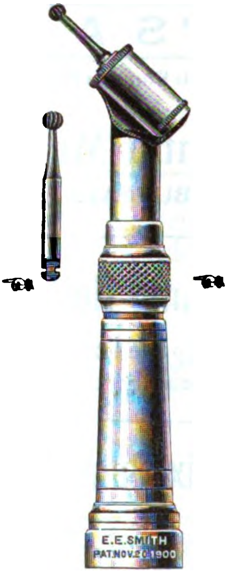

Fig. 3.—For Doriot Hand-piece.

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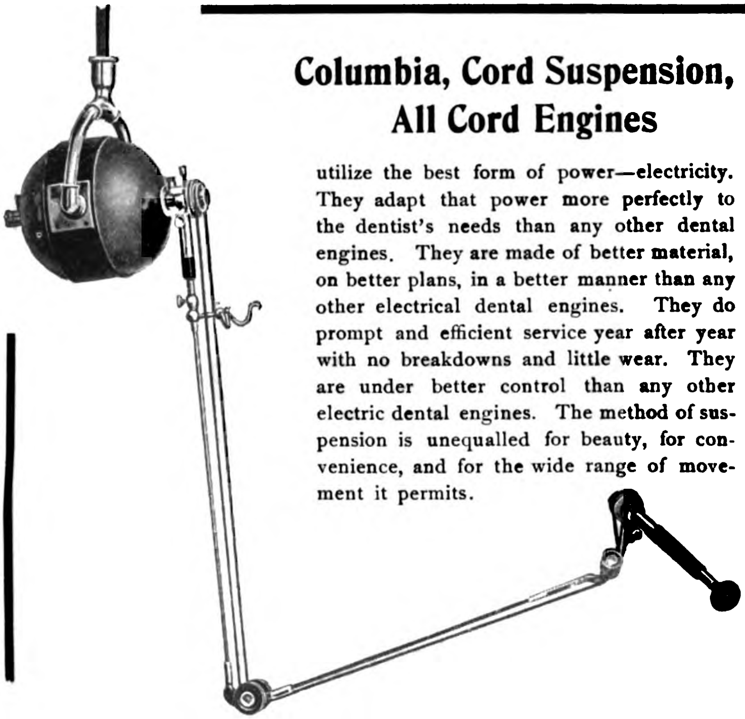

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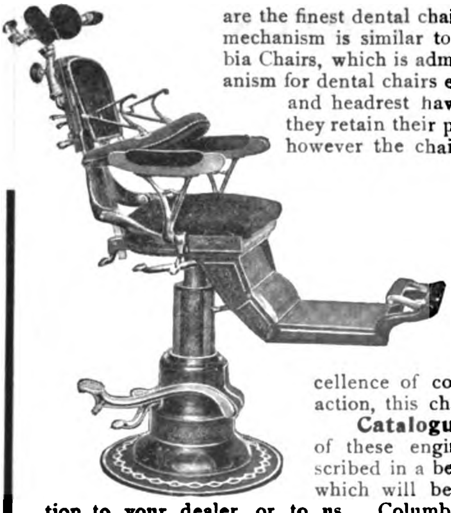

are the finest dental chairs ever produced. The lifting mechanism is similar to that used on Favorite Columbia Chairs, which is admittedly the finest lifting mechanism for dental chairs ever devised. When the back and headrest have been adjusted for a patient, they retain their proper relations to that patient, however the chair back may be raised or lowered. This is a new feature of great value and convenience and permits easy and simple manipulation of the chair in case of need. The upholstered back is in two parts and forms, when opened, a handsome and convenient child's chair. For beauty of design, excellence of construction and smoothness of action, this chair is unequalled.

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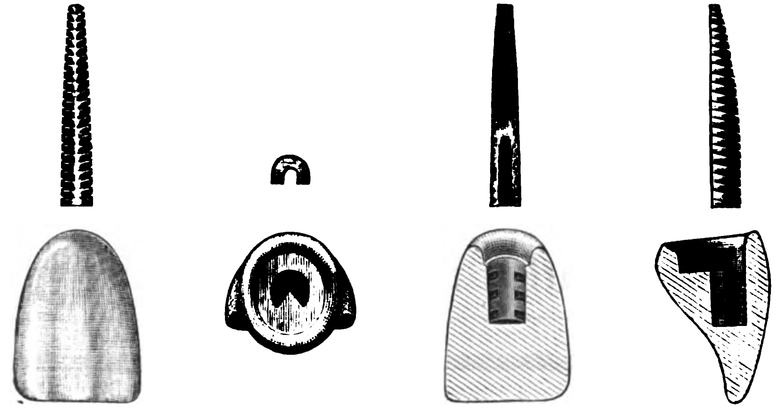

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It has all the admitted advantages of the detached pin crown without any of the objections.

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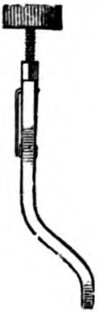

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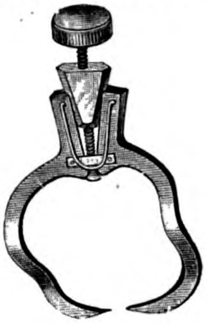

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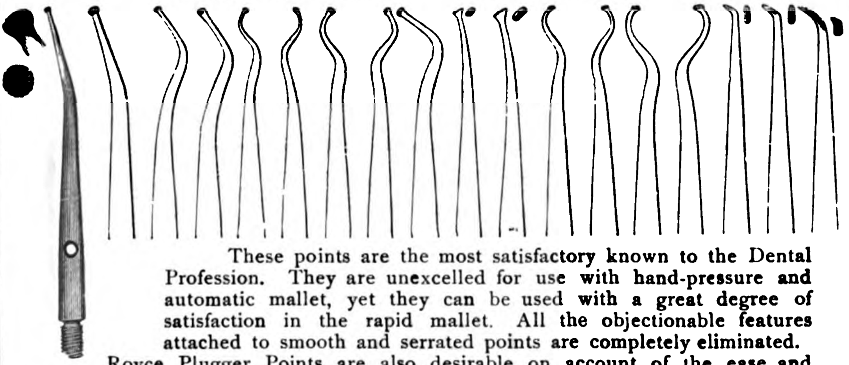

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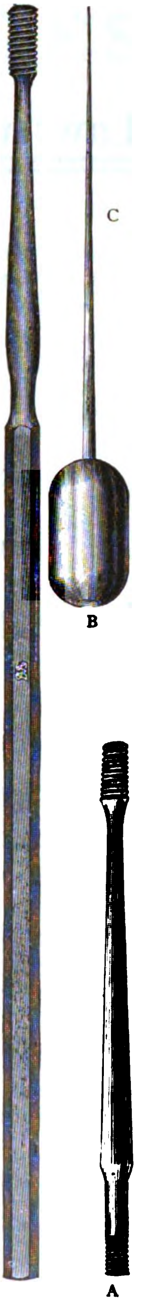

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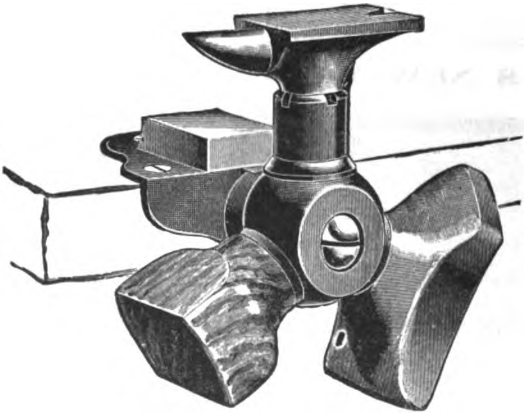

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Anvils	"	1.00
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Celluloid is grateful to the mucous membrane.

Celluloid requires no more labor or skill in its manipulation than rubber.

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Uppers	Nos.	3	3½	4	4½	5	5½	6	6½
	Price,	$0.16	.20	.18	.22	.22	.25	.27	.29

"A" plates.—Same sizes and numbers as ordinary uppers, but double thickness, for cases where great absorption has taken place. They are marked "A" on the upper surface.

Uppers "A"	Nos.	3	3½	4	4½	5	5½	6	6½
	Price,	$0.23	.24	.24	.28	.30	.30	.39	.44

Lower plates.—Seven sizes; No. 1½, smallest, to No. 4½.

Lowers	Nos.	1½	2	2½	3	3½	4	4½
	Price,	$0.12	.13	.16	.15	.21	.21	.26

Partial plates.—Three varieties, 2 sizes of each. Nos. 5 and 6 are for ordinary cases; Nos. 7 and 8 for cases where the front teeth only are to be replaced; Nos. 9 and 10 for the side teeth.

Partials	Nos.	5	6	7	8	9	10
	Price,	$0.08	.10	.13	.16	14	.18

Plumper plates.—Four sizes, Nos. 3, 4, 5, and 6. Nearly the same size as the ordinary uppers of same numbers, but with very heavy rim, for cases where the gum is much absorbed.

Plumpers	Nos.	3	4	5	6
	Price,	$0.27	.36	.43	.35

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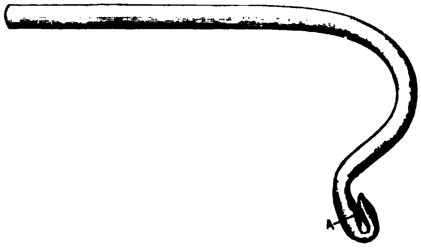

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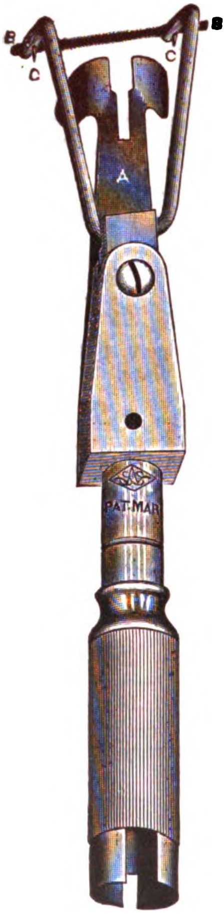

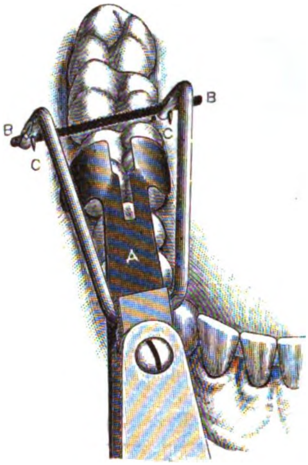

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THE
PENN DENTAL JOURNAL.

Vol. IX. MARCH, 1906. No. 3

COMMUNICATIONS.

Separation of Teeth.

BY DR. J. GORE, DEMONSTRATOR IN OPERATIVE DENTISTRY AT U. OF P.

[Read before the Edward C. Kirk Dental Society.]

I WISH to thank the Edward C. Kirk Dental Society for the opportunity of speaking to them upon a subject which, on account of the many things which daily present themselves, does not always receive its due consideration—Separation of Teeth.

For the more intelligent understanding of the subject, let us briefly consider some of the structures concerned in the process, viz: the alveolar process and pericemental membrane.

The alveolus is composed of cancellated bone containing a number of canals for the transmission of blood-vessels and nerves. It is more closely adapted to the tooth in elderly persons, permitting greater movement of the tooth in the young.

The pericementum is the membrane which affords attachment between the alveolar process and the cementum of the tooth. It is composed of inelastic connective tissue fibers passing obliquely from the alveolus to the tooth, which permit a certain amount of movement of the tooth, only a few of the fibers being placed on the tension at any one time.

The other structures of importance in the pericementum, in connection with this subject, are the osteoclasts. When pressure is brought to bear on one side of the tooth the alveolus is slightly sprung, and pressure is produced on the opposite side from that of the separation. From the above it will be seen that a certain amount of immediate separation is possible, but too rapid a separation may produce fracture of the alveolus and injury to the pericementum. According to Dr. Burchard, "The phenomena make their appearance to an extent governed by the degree of violence,—exudation, swelling, redness, pain, fibrinous and corpuscular exudation occur, and later reorganization of the tissue; in some cases a degeneration, depending upon the completeness with which the indicated therapusis is applied and upon the vitality of the patient. Traumatic pericementitis in a high degree in the young may be recovered from, but in the middle-aged it may give rise to a series of degenerative changes which only end with the loss of the tooth." Treatment of the condition consists of removing the cause and surgical rest, which is accomplished in two ways—first, by preventing the tooth from striking its antagonists or holding it so rigid that it cannot move if it does strike them. When a slow separation is used, opportunity is given for the osteoclasts to dissolve the fibers placed on tension on one side of the tooth, and cause absorption of the alveolar process on the other.

The readiness with which teeth separate depends upon the age of the patient and proximity of the teeth in the arch. It can be accomplished under any condition, being slower, however, when the arch is crowded.

Means of accomplishing separation are various, and the choice is determined by the amount of space required, time in which it must be accomplished, proximity of the teeth, firmness of the surrounding tissue, and susceptibility of the patient to pain. The mechanical separator is best used in cases requiring only slight separation in young patients, for separating teeth to polish fillings, examining surfaces, and removing discoloration. The objections to this method are—it is in the way of the operator, obstructing light and access to the cavity; it is painful and can be used only to secure slight separation, without danger to the surrounding structure. The same might be said of the wooden wedge, except that it is not in the way of the operator. The method of inserting it is as follows: First, insert a wedge near the incisive edge. After the desired separation is obtained in this way, insert another, which accurately fits the space at the cervical margin. In this way, pressure upon the gum is avoided. Rubber is the surest method of securing separation. It is very useful where other methods have failed to get the proper amount. The objection to its use, however, is that it is too painful, as it does not hold the tooth firm after separation, but permits of a certain amount of movement, which is a source of considerable pain. A slight soreness after separation can be relieved during the operation by inserting a wedge or mechanical separator.

Fibrous materials for separation: These act by the capillary force of water upon the fibrous structure of materials. Cotton with ligature is one of the best methods, as it will not only produce the desired separation, but will hold the tooth firmly in its place, which allows the soreness to pass away. If decided cavities exist, place ligatures between the teeth, pack the cotton firmly in the cavities, and tie the ligature around the cotton. If no decided cavities exist, twist the cotton around the ligature, force between the teeth, and tie with double knot. This method is, in the opinion of the writer, not as positive in its results as linen tape. When this latter material is used between the anterior teeth it will probably produce the desired result with less pain than any other separation. The method of using this material is to insert as many thicknesses as possible, and allow the patient to increase the number daily until the desired separation is secured, then allowing several days to elapse before filling, when it will be found that there is not only the desired separation, but an entire absence of soreness. For the posterior teeth, base-plate gutta-percha inserted between the teeth and allowed to extend beyond the cavity, sufficient for the opposing tooth to strike it, is probably the best, provided the buccal and lingual walls are intact. If these walls are missing, a cement filling should be inserted and cotton, tape or rubber used. In all methods, except the gutta-percha, they should not be allowed to impinge upon the gum.

The objects of separation are to secure room to work and admit light into the cavity. This is a necessity, for unless there is good light and room to work it is impossible to insert a good filling, and any temporary inconvenience or annoyance to the patient is soon forgotten if the desired result is obtained. It is necessary to have sufficient separation to produce a perfect restoration of the tooth to its original shape. This should be the endeavor of the operator, not only from the æsthetic standpoint, but to restore the normal contact-point and interproximal space, thus permitting the oral fluid to pass between the teeth and wash away particles of food at the cervical margin, preventing a recurrence of decay at the point where it is most likely to occur. It also allows the floss silk or toothpick to cleanse the space and prevents particles of fibrous food from being held between the teeth in contact with the gum to irritate it. Another use of separation, when gutta-percha is used, is to force away overhanging gum-tissue. This material does not irritate the gum when in contact with it. The method of doing this should receive attention. The gutta-percha should be forced down further at the lingual and buccal angles, so that the convex shape of the normal festoon of the gum shall be maintained, otherwise particles of food will remain in the concavity after filling, and thus retard its restoration to a healthy condition.

The amount of separation varies according to the location of the tooth and dexterity of the operator; but an amount of separation in excess of that required to restore the original shape of the tooth should be secured, so that there will be sufficient room to polish the filling and render it perfectly smooth at the contact-point.

There are two conditions requiring attention—first, when the cavity to be operated upon, because of weakness or otherwise, cannot be extended sufficiently to prevent future recurrences of decay, an extra separation should be secured and an excessive contour added to the filling, which will keep the margins of the cavity out of contact and so prevent recurrences of decay. Second, when approximal cavities exist between teeth which are overlapping, due to overcrowded arch, they should be extended to carry the margins out of contact, if possible, and the contour in each made slightly less than the original shape of the teeth, to allow them to more nearly assume their correct positions in the arch.

Filling of a tooth should never be attempted until all soreness from separation has passed away, as a good operation is impossible on a sore tooth, without causing an unnecessary amount of pain.

Gutta-percha placed in the cavity and space for a few days will relieve the soreness, and make a better operation possible. The teeth should not be kept separated too long, as considerable absorption of the alveolar may take place and the teeth remain in their new position.

A Few Comparisons in Dental Anatomy.

BY DR. CHAPMAN, '05, L.D.S., ENGLAND.

I TAKE it for granted that the value of this subject to the dentist is acknowledged. In bringing it before you I shall, therefore, endeavor to show you that comparative dental anatomy is not simply a mass of formulæ of the dentitions of various animals but that it is a subject full of interest both in its anatomical and physiological aspects.

As dentists to the genus *Homo* of the family *Primates* we are apt to get the idea that theirs are the teeth par-excellence and that the dental organs of other animals are inferior in structure, arrangement, articulation and fitness for the functions evolution has demanded of them. The teeth of man are degenerating, as evidenced by loss of upper laterals and third molars in many subjects; also by an increasing tendency to irregularity. This is one reason why we cannot regard man's teeth, admirably adapted as they are for an omnivorous diet, as very highly specialized. When we have considered a few animals closely, many other reasons will be obvious.

A few histological facts demand our attention first. *Enamel:* This is composed of prisms, which in man have a decussating course; in the rat the prisms are serrated; in the eel there is no visible structure. In man enamel is solid, but some animals have tubular enamel, the tubes entering either from within or without. All the *Marsupials*, animals which take the place of mammals in Australia, except the wombat, have the former variety, which is indistinguishable from ordinary enamel during development. The Port Jackson shark or *Cestracion Philippi* has tubes in its enamel, which start from the outer surface and pass inward. The beaver and many other rodents have pigmented enamel, the color being orange: it is disputed whether it is caused by cheongenic bacteria or pigmentation from food. In teeth of persistent growth, enamel extends to the base of the tooth; in the rat it is only on the front and sides. The entire tooth is composed of enamel in one animal, the *Aye-Aye;* in the teeth of the eel and elephant's tusks it only forms a tip. A few teeth have no enamel, as the canines of the *Sus babyroussa* and the tusks of the *Narwal.*

Dentin. In man the dentin has no blood-vessels, but vasodentin enters into the formation of the teeth of the hake—it is permeated with small capillary channels. Rare cases of capillary loops in human dentin are occasionally met with. I have had the opportunity of seeing a section of a tooth showing this condition, which may exist when we find we have drawn blood before the dentin has been penetrated to any appreciable extent.

Cement is the most external of the dental tissues; this is exemplified in human teeth, for the cement slightly overlaps the enamel at the neck. In many animals it covers the entire crowns; the ruminants are examples of this. Where large teeth are made up of a number of small rudimentary conelike teeth called denticles, as in the molar of the elephant and capybara, cement is the tissue which unites the various pieces together.

The Pulp. Here it will be necessary to explain that teeth may be classified as being of limited growth or persistent growth. Teeth of limited growth are those in which the tooth is completely formed early in life and undergoes no further change as regards normal growth; the teeth of persistent growth continue to grow as long as they are *in situ*, after the manner of our own nails or hair; the incisors of rats and mice and of all other rodents are of this type, whilst you will easily recognize the former variety. The attachment of teeth demands our attention next; there are four methods:

1. Gomphosis, or peg in a hole, with a membrane to attach the tooth to its long socket, is the commonest, and is seen in man, porpoise and dolphin.
2. Anchylosis, as in the frog, makes transplanted teeth.
3. By a hinge joint, some are elastic, others non-elastic, or simply fibrous, as seen in the hake and pike.
4. By fibrous membrane, which is best illustrated in the sharks, this mode allows the teeth to be readily lost and to be as rapidly replaced by the revolving membrane bringing up the successional tooth to its place.

We will now proceed to consider the dental apparatus of a few animals more closely. Mammalians are the highest type of creation and therefore demand our attention first.

The family *Edentata* is one of the lowest in the scale; it is, as the name implies, edentulous, or very deficient, from a dental standpoint. The true ant-eaters have no teeth whatever.

Rodents. This is a particularly interesting family. Animals of this type, though not truly rodents, but "functionally rodent" are found all over the world. In this country rats, mice and squirrels are specimens of rodents; in Australia the wombat takes the place of a rodent, though it is not a mammalian, and a casual observer would class it as a rodent on examination of its skull. In Madagascar there are the *Cheiromys* or *Aye-Ayes,* which belong to the family *Primates,* but their dentition is modified toward the rodent type. In Australia there are no indigenous rodents nor in Madagascar (except a few numidæ), so in these two countries animals have been evolved by the process of adapted modification to take a place in Nature's economy to perform functions in many respects similar to those performed by our own rodents and which functions cannot be performed by any other animals. The incisors are of extraordinary shape and exemplify the power of Nature to produce a perfect organism for a given purpose, which in this case is to provide the animal with food and a mode of life impossible for any but animals of the rodent class; hence their struggle for existence is not as strenuous as it might otherwise prove to be.

Comparative Dental Anatomy is full of examples of this character. These incisors are curved, so that the uppers form a large segment of a small circle and the lowers a small segment of a larger circle, and often pass right back under the lower molars. The pulps being persistent, the ends of these teeth are open, as in developing human teeth. The reason for these long teeth and their curvature is to prevent direct pressure on the pulp and nerve supplying the teeth and are situate far back in the jaw. Any pressure exerted on the tip of the tooth will always tend to go off at a tangent throughout the length of the tooth, and by the time the end of the root is reached the force is practically *nil.* This leads me to think that if evolution will bring out curved human teeth, infants may be saved some trouble and pain caused by the pressure of a tooth not erupting properly on the pulp below. Rodents use the incisors for gnawing, and the deposition of the tissues is such that a sharp and strong edge is constantly maintained for the purpose. The front and sides are covered with a layer of enamel and, proceeding from the buccal aspect toward the lingual, we come to hard dentin, which gradually becomes softer, and is finally covered with a thin layer of cement; in other words, there is a gradual decrease in the hardness of the tissue bucco-lingually. The upper and lower incisors articulate almost after the manner of a pair of scissors, so that the normal use of these teeth is a force that keeps them sharp. Their abnormal use is prevented by the antero-posterior arrangement of the condyles of the lower jaw, which only permits of the slightest lateral movement. Therefore the teeth cannot meet each other except in parallel lines, or there would be a tendency to chip the thin sharp enamel edge and so impair their function.

Ungulates will be considered now, and I shall only refer to the horse and pig. Both these have the typical mammalian dentition $\frac{3\,1\,4\,3}{3\,1\,4\,3}$ Incidentally it is well to mention here that man sometimes exhibits reversions to this typical formula, when two laterals or three premolars are seen on one side of the mouth; the probable explanation of the phenomena is that it is the result of atavism—a reversion to some ancestral type.

To return to the pig or wild boar, a closely related animal, whose skull I show you; the canine, or tusk as some call it, is an interesting organ. It is a curved tooth forming more or less of a semicircle, the upper one passing outside the lower lip and curving upward. There is enamel on the under surface only, arranged in three bands, the exposed tissue on the other surfaces being cement. The lower canines are more slender, longer and sharper, triangular in section, and the surface which comes in contact with the upper canine is devoid of enamel; the tooth is kept sharp by the softer tissue articulating with a harder tissue and also by the oblique direction of the wear. These teeth are very powerful weapons and, according to Tomes, capable of disembowelling a dog at a single stroke. In the domesticated races the tusks of the boars are much smaller than in the wild animal, whose bristles are also more pronounced, a fact which supports the theory that there is a correlation of growth between teeth and hair. These teeth are sexual weapons, for they are very much larger in the male than in the female. The deciduous canines do not exhibit any of the characteristics of the permanent teeth and castration arrests their further development. Probably these wild boars use them to fight with one another for the possession of the females. The molar series is worthy of note: there are three true molars which increase in size from before backward. The first has four cusps divided by a crucial depression, the cingulum distally being elevated into a transverse ridge; in the second this transverse ridge is more strongly marked and the cusps are divided into small accessory tubercles which in the early part of development are not united. The third and last one is twice as large as the first in the mesio-distal direction, the increase in size being due almost entirely to the development of the cingulum distally into many subsidiary tubercles, which appear in the first molar as an elevated ridge.

The horse is another division of this family. Horse dealers can accurately determine a horse's age by its teeth and in dental terms this is the explanation. It depends on the fact that the horse has an edge to edgebite, which, combined with its food and habits, causes the incisors to be rapidly worn away with the exposure of the different tissues or the same tissues differently arranged. At the incisal edge of the anterior teeth the enamel dips down to form a cul-de-sac, which does not extend to any great depth and consequently is soon worn out, leaving a plain surface of dentin surrounded by enamel. All the permanent teeth are in place at five years, the centrals exhibiting most wear and the corner teeth are unworn. At six years the cavity in the centrals is worn out and the age judged by the state of wear of the corner teeth. At eight the occlusal surface of the centrals is triangular and the cups or depressions gone entirely. From eight to ten years a stain remains on these centrals. It is due to the presence of secondary dentin into which the pulp has been converted by a process well known to you for pulp protection. The stain is situated buccally to the position occupied by the cup. There is still a ring of enamel on the cuspids at this time. After twelve years the mark is gone entirely from all the teeth. The age is now determined by a groove on the implanted portion of the incisor teeth, the third or corner one only being considered. It should be mentioned here that the teeth of the horse are graduallv extended from their sockets during the animal's life, and not of persistent growth, as might be assumed by the previous sentence. This groove appears at the gum-margin in the ten-year-old, there being an inch of tooth-structure above it, which is worn away in eleven years, so that at twenty-one this groove just reaches the occlusal or incisal surface. The incisor teeth are the only ones used in determining the horse's age.

The *Carnivora* deserve attention, though this is a class we know as well as any, for it includes dogs, cats, lions, bears, seals and walruses, and from this list we notice that some are terrestrial only, others are equatic as well. There are three main types of the terrestrials: (1) Those truly carnivorous or flesh-eating, as the cat and hyena. (2) Those chiefly herbivorous, the best example of which is the bear. These are the two extremes, and (3) we have the intermediate group, which includes the most generalized animals and eat anything, as dogs, foxes, wolves. These characteristics in food habits are explained in examination of their dentition.

In the cat all the teeth are sectional or cutting in type, even those of the molar series, which is often reduced in number. These teeth are for tearing flesh and have no distinct articular surfaces as we ordinarily interpret the word. The dog has a larger number of teeth, and as we proceed backward in the mouth we find the surfaces becoming more tubercular or cusplike in character, which permits of a wider range of diet than is allowed the cat family, for these can triturate food to some extent.

In the front part of the mouth, bears have similar teeth to the cats and dogs—the molar series is the important part. These teeth are somewhat human-like but larger, and present broad articular surfaces wherewith to triturate their food, which is largely of a herbivorous nature. In all of this family the canine teeth are the most prominent, the lower cuspid pressing right up into the space, called the diastena, which exists between the upper cuspid and first premolar when the mouth is closed. It is quickly observed, then, that anything once seized by these animals and the mouth closed, perhaps only partially, can be very persistently held.

Before passing on to the fish, *Insectivora* will only take up a few words. The mole and hedgehog are examples. I show you a specimen of the former, the molars being the important feature, for they bristle with long sharp cusps. Their diet consists mainly of insects, and you will notice how well their teeth are adapted for this by the many points they possess.

Fish. There are a few interesting peculiarities seen in the teeth of fish. The sharks belong to the class of cartilaginous fish and have not the true maxillæ. The lower jaw is represented by Meekel's Cartilage in a semicircular form and clothed with teeth in parallel crescentic rows on the lingual surface, one tooth lying close behind its successors, four or five of which may be seen *in situ* at one time. As previously mentioned, these teeth have only a fibrous attachment to the jaw, and though they are readily lost a new one just as readily takes its place. The unerupted teeth are covered with a flap of mucous membrane in the natural state and are directed down and backward. Some sharks vary a little from this description, which is that of the hammer, whose skull I am able to show you. The new teeth are brought into place by the rotation of the attaching membrane revolving over the jaw.

The *Pristis* or sawfish has very small teeth in its mouth; this, however, is not peculiar, but its snout is, being prolonged into a gigantic spatula-like structure, called the rostrum. It has thin edges, beset with teeth. These rostral teeth are gomphosed, a method of attachment not at all common in fish, and grow from persistent pulps so they are not shed.

The ***hake*** and ***pike*** deserve passing mention on account of their teeth having the hinged attachment already mentioned. Anatomically the hinges in these two cases are not alike. The hake has two rows of teeth, the inner only being hinged. The hinge consists of elastic fibers attached to the lingual surface of the teeth and the bone below. The vessels and nerves of the teeth pass through a hole in the hinge membrane situate about at the axis of motion, so that they escape being stretched or torn when the tooth is moved. The arrangement is for catching prey, and it is evident that when a fish is caught and the teeth bent back as the prey enters the mouth, that the elasticity of the hinge will insure the tooth resuming its normal position if escape is attempted, and so the orifice of the oral cavity is practically sealed in that direction. The pike also has two rows of teeth, the inner ones having a non-elastic hinge, the resilience of the teeth being provided for in another manner. The outer row is anchylosed to the jaw by calcified rods running through the pulp to the bone beneath. In the teeth of the inner row these rods do not calcify but remain soft and elastic, thus bringing about the return of the tooth to its natural position. The hinge proper consists of fibrous tissue only, situated in a similar position to that of the hake.

Reptiles are the last division I shall mention and my remarks are confined to the snakes. Classified according to the form of their teeth, we have the colubrine snakes arranged as follows, their poisonous qualities increasing as their teeth are more grooved or canaliculated:

1. None of the maxillary teeth grooved or canaliculated, *e.g.*, common English snake, which is harmless.

2. One or more posterior maxillary teeth grooved; they are not very poisonous, *e.g.*, whip snake.

3. Front teeth grooved and tubular, all poisonous but of varying virulence. Posterior teeth reduced in number. Cobra is the most dangerous of this division. Python, rattlesnake and viper are not included in the above classification.

These will be considered in the order of their specialization, beginning with the *python*, the least specialized. This is a non-poisonous snake: lower jaw has one row of teeth, the upper two rows, the outer being on the maxilla and the inner on the palatine and pterygoid bones. The teeth are strongly recurved and anchylosed, not being used for mastication but only for catching prey, which is then swallowed whole. There is a special arrangement between the upper and lower jaws whereby they are alternately thrust forward, the curve of the teeth preventing any movement of the prey, and so the snake gradually forces its body over that of its enemy. There is a rapid succession of these teeth whereby dental curvature is always well maintained. They consist of dentin covered by a thin layer of enamel, and are anchylosed to the jaw. The successional teeth lie flat against the jaw well protected by soft tissues; as they come into position they not only have to move forward but also become erect.

The *cobra* is the most dangerous snake and has only one tooth behind the poison fang. There are two poison fangs, one on each side of the median line, but never more than one is in place at a time, except when one is being shed, which is usually the result of injury, there being a reserve of them always in the jaw. The fang is grooved, the lips of the groove meeting but not fusing. The poison is secreted by a very large parotid gland, as it is in all very poisonous snakes. The duct of the gland opens close to the upper orifice of the groove. When the snake is angry a special muscle contracts and forces the poison from the gland not only down the canal but also all around the fang. Ordinarily a flap of mucous membrane prevents the escape of the poison. The cobra bites like a dog.

Lastly a description of the *viper's* apparatus, the most highly specialized of these poison apparati, will conclude this paper. The vipers have no teeth, except the poison fang, which is of great length. For this reason there is a special mechanism of the cranial bones which allows the organ to be laid flat along the roof of the mouth when not in use and is then covered with a flap of mucous membrane. Otherwise its length would be a constant source of annoyance to the animal. The tooth is slightly recurved, has very little enamel, so is elastic and is canaliculated, the canal commencing on the anterior surface and terminating on the same a little above the point, thus securing the maximum sharpness of the fang; this arrangement suggested the present form of hypodermic needle. The poison is injected similarly to that of the cobra, but this snake strikes and does not bite. Another difference is, that the poison is directed right into the upper opening of the canal by the mucous membrane, now stretched tightly over the root of the tooth, which covers the fang in a state of rest. The canal is lined with dentin and the edges of it perfectly closed, so that we begin in the least specialized snakes without grooved teeth and end with a perfectly canaliculated tooth, having passed through one intermediary stage, and others could be mentioned. In the *Hydrophi,* Tomes says the canal is lined by enamel, as well as enamel on exterior of the fang. The canal is longer than that of the cobra and can carry all the poison required. Only one poison fang is in use at a time on each side, but for each there is a double succession, so that if one is injured or destroyed, as is very probable when the snake strikes, another fang rapidly takes its place, not in the same position but at its side. This suggests rapid succession; the reserve teeth lie recumbent in the jaw behind the mucous membrane. This is undoubtedly an important factor in the preservation of this species. In the rattlesnake there may be as many as ten poison fangs lying in reserve at one time.

In conclusion, I wish to thank Dr. Kirk for permission to remove the skulls which I have shown you tonight from Dental Hall.

Esperanto.

BY GEORGE VILLAIN.

ESPERANTO! You have doubtless all heard of the proposed international language, but you only can 'know its name, for I am sure that if you knew what it is; if you had thought but an instant what a boon its possession would be to humanity, you would all be esperantists.

I myself do not know esperanto. I am only a student esperantist, one of those that some may call an "utopist," but Utopia exists only in the minds of narrow-minded people.

I would like to be able in a few lines to tell you what this international language is, but I fear that it would be more difficult to understand by such an explanation than it would be by a mere glance at its grammar. Nevertheless, I shall try, and beg the reader's indulgence for my deficiencies.

The project of an international language was proposed many years ago by such men as Roger Bacon, Descartes, Pascal, Voltaire, and others. Many men have tried to solve the problem and failed. You have doubtless heard of volapuk, and the cause of its failure has been a great obstacle to overcome in the popularizing of esperanto, though the two languages cannot be compared; the former was a new language made entirely of new words and grammar—esperanto has been formed from the existing idioms, and the student of any nationality can make use of his knowledge of his own language as a basis for learning esperanto, with very little additional effort.

D. Zamenhoff, a Russian linguist, thought for a long time over the matter, and when he felt he had solved the problem he published a pamphlet in 1887, "An International Language," by D. Esperanto, which was well received in Russia, Norway and Sweden, but it was some ten years later that a hope of success appeared to its propagators when M. de Beaufort undertook to popularize it in France.

M. Borel introduced the language into Germany, then Austria, Switzerland and Italy followed, and finally England, where thirty societies of esperantists were formed in a few months as the result of the efforts of M. M. Stead and Max Müller. M. M. W. Forester, L. Ostwald in Germany, Schuehardt in Austria, Max Müller, Rhodes and Sir Ramsay in England, Count Tolstoy in Russia, the scientist Dr. Bronardel, D. Richet, Prince Roland Bonaparte and many others in France were the supporters of esperanto, and with such propagators the international language has made rapid progress. It is taught in clubrooms, commercial schools, public institutions and universities. Lately M. Moch, at Luzerne, addressed the International Congress of Peace in esperanto.

Last August a congress was held at Boulogne where 1200 esperantists, delegates from twenty-two different countries, proved the practical utility of the new language. They made speeches, gave plays and concerts in esperanto, and on Sunday held a religious service in that language. The French government has supported and honored D. Zamenhoff, and there are now 400,000 esperantists spread all over the world.

Of the language itself what can I say? There seemed to be three great difficulties to overcome. D. Zamenhoff understood them thus:

1. Render the study of the language so easy as to make its acquisition mere play to the learner.

2. Enable the learner to make direct use of his knowledge with persons of any nationality, whether the language be universally accepted or not;. in other words, the language is to be directly a means of international communication.

3. Find some means of overcoming the natural indifference of mankind, and disposing them in the quickest manner possible,

and en masse, to learn and use the proposed language as a living one, and not only in last extremities with key at hand.

Each of these requirements was entirely met. To illustrate, let me tell you that after spending one hour, not of work but of mere amusement, I was able to write a letter to Dr. Kirk, scarcely making use of the vocabulary. The vocabulary! 900 words are sufficient for a man of moderate education to understand and write esperanto, which is composed of 2000 words; English, German and French are composed of from 80,000 to 180,000 words.

All the words common to all languages have been adopted, *e.g.*, telegraph, telegrapho; acid, acido; album, albumo; etc. Most of the other words have been chosen from the most common in the world, while the few words remaining, peculiar to one country, have been eliminated so as to make the language of equal ease or difficulty to everyone.

Esperanto is formed of root words which represent the idea. Out of one root one can form the different parts of speech needed by the addition of prefixes or suffixes.

o, always indicates a noun: patro (*father*).
a, " " an adjective: patra (*paternal*).
i, " " a verb: estimi (*to esteem*).
e, " " an adverb: patre (*paternally*).

I say always, because in the grammar of esperanto there are no exceptions.

mal, marks the contrary idea: amiko (*friend*); malamiko (*enemy*).
ar, marks collectivity: arbo (*tree*); arbaro (*forest*).
ec, " abstraction: bela (*beautiful*); beleco (*beauty*).
ebl, " making possible: fleksi (*to bend*); fleksebla (*flexible*).
ig, marks idea of rendering: bela (*beautiful*); belegi (*beautify*).
il, marks instrument for a given means: tranci (*to cut*); trancilo (*knife*).
ist, marks profession: dento (*tooth*); dentist.

Fifty of these affixes enable one to speak fluently, giving him command over a vocabulary which is made up of 2000 words and include the prefixes, suffixes, root words and grammatical declinations.

Sounds peculiar to one language, such as: ñ, j—Spanish; ch—German; th, w—English; u—nasal sound—French; have been eliminated.

Accent is always on the penultimate syllable. The grammar can be epitomized in a few rules: la is the article, masculine, feminine and neuter; personal pronouns are: mi—I; vi—you; li—he; gi—it; si—she; ni—we; ili—they; oni—one, they; si—self. Cardinal numbers: unu, du, tri, koar, koin, ses, sep, ok, nan, dek, cent, mil; dek du=12. Add the adjective ending (a) to form the ordinal numbers.

***n*, marks the objective-accusative (*direct object*) and place where one goes.**
***i*, marks the infinitive.**
***as*, " " present.**
***is*, " " past.**
***os*, " " future.**
***us*, " " conditional.**
***u*, " " imperative.**
***anta*, " " present participle.**
***inta*, " " past participle.**
***onta*, " " future participle.**
***ata*, " " present passive participle.**
***ita*, " " past " "**
***ota*, " " future " "**

Esperanto is melodious. I heard with much pleasure songs, poetry and conversation in that language by Italians, Englishmen, Germans, Russians and Frenchmen. They all had a peculiar accent, but seemed to understand each other very well, the discussions being very lively.

During the last five years the number of esperantists has more than doubled. Books are written in esperanto, others translated (Shakespeare and Dickens); twenty-five periodicals are printed entirely in this language, one of them a scientific journal—the "International Scientific Review." A medical dictionary is being compiled, and esperanto clubs and societies are being formed all over the world. The blind have special editions. A system of stenography has been adopted and a typewriter with esperanto alphabet manufactured. Many business houses use it, and the "Delegation for the Adoption of an International Language," formed by representatives of the scientific world, after the congresses of Paris, 1900, are investigating the matter. Let us hope that they will soon select the international language so much desired and which they must present for adoption to the "International Association of Academies," composed of academic and scientific bodies of Amsterdam, Berlin, Brussels, Budapest, Christiana, Copenhagen, Göttingen, Leipzig, London, St. Petersburg, Stockholm, Vienna and Washington.

It is unnecessary to dwell upon the usefulness of a universal language in scientific works, in commerce, travel and especially diplomatic relations, where French is now the universal language, necessitating a great amount of study to attain the requisite knowledge and proficiency. How much time and work should we save if we had but one language to learn besides our own, for esperanto is not intended to take the place of the natural language of any people, but for international relations and works of universal interest.

Time thus saved could be profitably employed in a longer study of science. And above all there would be a better understanding among men, and consequently a closer friendship. The difference of language is the cause of division and of that which we call "foreign." My heart bounds at the word "foreigner," for are we not all men? And men, no matter from what country they come, think, feel, laugh, and cry, for we are all brothers of the same great family, *Humanity*. Science has destroyed distance and esperanto will do the rest.

But for us it has a special interest, and the reasons why we should learn it are many. In all international dental congresses we are always handicapped, because few are sufficiently proficient in the various languages to understand all that is said or to make themselves understood by all. If it is necessary to meet men from all countries in order to strengthen our knowledge of dentistry is not the necessity of understanding all of them equally great? And books, the propagators of civilization, are they not also the propagators of our methods and our best help in the advancement of the profession? Books like that of our worthy Dean cannot be translated into all languages, because the expense of translation and publication could not be paid by their sale, which in France, for instance, could not exceed 1800 copies. If our professional books and periodicals could be printed in esperanto, their sale and circulation would be greatly increased.

Many more dental students would come to our University if it were not for the difficulty of learning English. Harvard has its esperanto class; shall we stay behind? No! Cheer up and help Dean Kirk carry out his broad and liberal enterprise. After the success of the "International Dental Federation," of which he is one of the instigators, shall we not support him in his efforts to render its benefits universal by means of an international language?

Fundamentals of a Successful Dental Practice.

BY CHARLES J. HART, '06.

[Read before the Edwin T. Darby Dental Society.]

I TAKE for my theme this evening a few fundamental facts as a basis upon which a successful dental practice depends.

Above all things a dentist should be cleanly, both in regards to his person and the instruments with which he works, as a well-groomed man and an orderly office are the first things to make a favorable impression upon his patients, and first impressions are generally lasting. This is not all. Coupled with these desirable qualifications he must understand his business, and if asked a question relating to his profession, must be able to give an intelligent answer, for people are quick to observe whether a man is familiar with his work or not.

In my judgment it would not take long for a man to win success if he is accurate in his diagnosis and prognosis; for when a person is in pain and comes to us, probably after several unsuccessful attempts at obtaining relief from other practitioners, and we are able to restore them to perfect ease, we thereby establish a tie which is almost akin to friendship.

Take, for example, an individual who has been troubled for some time with pains in the eye, and we find the cause to be due to a diseased molar. After thoroughly treating the said tooth, or perhaps removing it, there is immediate relief. You can well imagine how grateful that person would be.

Returning once more to our orderly office, let me say it should be bright and cheerful, having as much sunlight as possible without being an annoyance to ourselves or our patients, for just as sure as a man has cheerful, healthful surroundings, they will show to his credit in his work.

In order to give the proper impression, and at the same time to have the most attractive surroundings possible, our office furniture should be of the very latest pattern, of a very good quality and be so arranged as to present a neat and tasteful appearance. In regard to the operating chair—it should be the best we can possibly afford, and one that, besides being of the most improved variety, should be under easy control, thus facilitating the handling of the patient.

Another thing which would prove very advantageous is to have in our office, and in plain view of our patients, a table or stand, upon which is a hot-water sterilizer. This serves two purposes: first, it is an all-important adjunct to our equipment and, secondly, it conveys the idea of our knowledge of surgical cleanliness. The sterilizer should contain a solution of borax or bicarbonate of soda which will prevent corroding of the instruments.

A word relative to the attention we should pay to children. When young children come to our office we should be considerate of them, for they easily become frightened, and to their childish minds we are about to torture them with our fearful weapons. When they come to us for the first time, it is better to amuse them for an hour the first day and dismiss them, than to begin immediately to work upon them. Let us then make friends of the children, for to use Dr. Darby's words, "they are liable to be our friends longer than an octogenarian."

Another suggestion I would like to make is, to have an assistant to relieve us of the many small details connected with our work, such as sharpening our chisels, oiling our engine, waxing our floss, and various other duties too numerous to mention, that consume in the aggregate considerable time, and as time is the dentist's only stock in trade, he should learn to utilize it to the best advantage.

Concerning the laboratory. This room I fear is often neglected; that is, it is often dirty, plaster being strewn over everything, tools scattered around, dusty boxes piled upon a shelf, and in general reminds one of an old junkshop rather than a room set apart as an artisan's workshop. Should we pay less attention to our laboratory simply because it is rarely ever seen by the public. Would it not render our work easier if it too was kept in an orderly condition? It should also be a cheerful and commodious room, for if we are compelled to be in it for any length of time each day, we would soon find cramped quarters not much to our liking.

I hope you will pardon me if I do a little moralizing, and what I have to say is this: let us avoid speaking in a detrimental way of some fellow practitioner, either directly or by inference. This is not only a good rule to observe from an ethical standpoint but is the most politic. I have in mind at present an illustration of this point, which was told to me by a dental practitioner. He had recommended a lady patient to a specialist for the administration of nitrous oxid and this lady requested that he accompany her to the place. All went well, and the lady was quite pleased after the operation and commended the gentleman on the painless method; then she said: "By the way, is there not a Dr. A. in this vicinity who administers laughing gas?" Then this specialist, not liking to hear his competitor's name mentioned, began to insinuate that Dr. A. was dead and that it was only the brother which the lady had reference to. This was said in a sarcastic manner which the lady did not fail to notice. She at once became uneasy and looked around for her hat, soon making her departure. The dentist who told me this said the lady, who was his patient, at another time had occasion to refer to the incident, and stated point-blank that she did not care very much for the previously mentioned specialist. You see it did not take long for her to change the good opinion she had formed to one of indifference.

While many good rules and hints that would be applicable to the subject in general might be given, it is a well-known fact that a statement which would exactly apply in the case of one person would act oppositely for another, and this leads me to believe, and I think that facts will substantiate this belief, that a successful practice in our profession depends entirely on the qualifications, manner, character, conduct and skill of the operator, and these or the lack of them will make or mar a man's career; further, to use a common expression, a good man will not be downed, and no matter how adverse the conditions, he will in the end rise to his proper position and receive the recognition and honor which is due him.

Dental Caries.

BY R. GREATREX YATES, '06.

[Read before the Edward C. Kirk Dental Society.]

THERE is a subject which we, as members of the dental profession, have constantly before our eyes, and from which we cannot separate ourselves for one moment; and yet, mainly I suppose on account of its familiarity, we are apt to treat it somewhat lightly and without that deeper consideration that it deserves. I refer to caries—that great enemy of the teeth, to fight which our profession was called into existence.

Caries is perhaps one of the oldest diseases of the human tissues, but it is only within recent times that its ravages have become as extensive as we see them at the present day. We have positive proof that caries was known at about 2800 B.C., and it is pretty certain, from the discoveries made during the last few years, that as soon as man emerged from the period of primitive savagery, became what we call civilized, and adopted the habit of subsisting to a great extent on cooked vegetable or carbohydrate foods, that he knew the pangs of toothache. In fact, the cooked carbohydrate constituted the forbidden fruit and the toothache the departure from Eden.

Now, gentlemen, I will start with a brief account of what caries is. I hope you will not infer for one moment that I doubt your knowledge of the tooth-structure, but merely to make myself clear, I will briefly outline the main points.

Enamel, as you know, is made up of a number of hexagonal prisms, completely calcified, but having a central core of slightly different constitution. Moreover, it is probable that each prism is made up of a number of globules.

Now, in the process of decay of enamel, the cement substance which binds the prisms together is dissolved and washed away by some agent; then, the prisms themselves are attacked and separated up into their composing globules.

The question we have before us is to determine the agent which has thus brought about the dissolution of the enamel substance. By the aid of the microscope it can be demonstrated that in caries of enamel we get a felt-like mass of bacteria on the outer surface, and it was thought for some time that the bacteria excreted an acid that dissolved the lime salts; but latterly, J. Leon Williams has demonstrated that this felt-like mass of bacteria is normally present on the greater part of the surface of the tooth, and the theory generally accepted today is that the offending acid is produced by fermenting food and that the bacteria play no direct part in this part of the process.

With the destruction of the enamel we have the surface of the dentin laid bare. Dentin, as you know, is made up of a number of minute tubules containing fibrils which are closely allied to nerve fibrils and have the power of conveying sensation to the pulp, by means of an indirect communication with its nerve fibrils. The tubules are composed of a semicalcified substance and are known as the Sheaths of Neumann. They are surrounded by a homogeneous matrix of calcified substance.

We thus see that the composition of the dentin is vastly different from that of the enamel, since it contains a large amount of organic matter. We realize at once that an agent which is capable of the destruction of a substance such as enamel is likely to require assistance from some other agent in the disintegration of a substance containing so much animal matter. True, the acids would be capable of softening the dentin, but it would leave it still retaining much of its original form, because they have little power on the animal matter of which the dentin is composed.

This is where the bacteria take up the tale. As you know, the mouth often swarms with nearly every variety known under the sun, and a great number of these are likely to be found in a carious cavity, but the decay is produced by a comparatively small number of the species. Having the surface of the dentin exposed then, and possibly softened by the action of the same acids which have dissolved the enamel, we find the bacteria entering the tubules, feeding upon the fibrils and advancing toward the pulp. Some of the bacteria produce acids which, aided by the acids formed by the fermentation of carbohydrate food around about the cavity, gradually dissolve the lime salts from the Sheath of Neumann, and then sets to work on the surrounding calcific matrix.

As soon as the lime salts are removed the peptonizing bacteria pounce upon the unprotected organic matter, and reduce it to a liquid state. Where several tubules have thus been merged into one another we find a little space termed a "liquefaction focus" and it is by the final merging of a number of these foci that we finally get a cavity. It has been observed in many cases, especially where the disease has been slow, that there exists between the cavity and the pulp a zone of translucent dentin, when viewed under the microscope. Moreover, it is important to note that in no case has it been satisfactorily proved that this translucent zone has existed in a tooth that has decayed after death of the pulp. We therefore conclude that it is due to some vital action on the part of the pulp.

The opacity of normal dentin is due to a difference between the refractive indices of the matrix and the contents of the tubules. The translucency is probably due to the refractive indices being brought to the same level. This could be done in two ways: either by decalcification of the matrix or calcification of the contents of the tubules. Personally, I am inclined to the latter view, for what is more feasible than that the threatened pulp should protect its prolongations into the dentin (as we may refer to the fibrils), by a formation of adventitious dentin. In fact we can put the whole thing in a nutshell by looking upon the translucent zone as being impregnated with a mild form of secondary dentin.

With this brief outline description of caries, as we see it under the microscope, I will now pass on to a discussion of the more important side of the question, namely the causes.

As I stated before, caries is not a disease that has sprung up in the last few hundred years, but wherever we can obtain skulls of civilized races, no matter how long ago they had their being upon the earth, we find evidence of caries and sometimes fairly extensive evidence, but I must admit that it is improbable that it ever reached the alarming extent that it holds at the present day.

If we examine races now in existence, we find that some of them have a very small percentage of caries. Take for instance the Esquimaux who live exclusively on a diet of fish and meat, and we find they have very good teeth; so, also, have the Gauchos, a mixture of Spanish and Indian, of South America, their occupation is herding cattle on the plains and they live almost entirely on meat. On the other hand many native races of Africa live on rough ground corn and yet manage to keep good teeth.

When we come to the more highly civilized races such as the Europeans and Americans we find them existing to a large extent on cooked carbohydrate or starchy food, and this I think is one of the great causes of caries.

A lot of research work has been done with respect to foods and it has been discovered that when a soft cooked carbohydrate food is allowed to adhere to the teeth for several hours it ferments with the production of acid—principally lactic. This dissolves the enamel and when that is done we may look upon it as a mere "cinch" for the bacteria. If meat is allowed to remain under the same conditions it putrefies but forms an alkaline excretion and this does not affect the enamel.

Sugar is looked upon by the laity as one of the greatest causes of caries but I think that idea is rather a false one. True, it forms an acid if allowed to remain in the mouth, but not to such a large extent as cooked starch. The chief reason that it has such a bad reputation is probably that it has the power of irritating the fibrils in exposed dentin and so causing toothache. I do think, however, that taken in excess, sugar may have a damaging effect on the general constitution and so constitute a predisposing cause of caries.

Let us now consider the *saliva*. One of our eminent lecturers, for whose opinion I have a profound respect, has stated that in certain conditions of bad general health of the patient, the saliva has an acid reaction, and he looks upon this as one of the great causes of caries. He is no doubt right, though I must add that in many cases of pronounced and extensive caries, the reaction of the saliva is alkaline.

If you will permit me to air my own humble opinion on this point, I would say that I place more faith in the *mechanical* constitution of the saliva. I mean that often when the health is a little low, the saliva becomes very mucoid. It may be that it contains more mucus than it normally ought to or that the serous supply is lacking; but at any rate, it is sticky and seems to form the carbohydrate into a sticky mass which adheres very closely and persistently to the teeth. This is particularly the case in youth and, I think, largely explains the virulence of the disease at that period.

It is well known that during pregnancy a woman is very liable to caries. This may be due to the vomiting of pregnancy or again to a mucoid condition of the saliva. But I must admit that I have had no opportunity as yet of studying the subject, so will not venture an opinion upon it.

You have probably noted during your clinical practice, that caries seems to possess a particular virulence in the mouths of children, and that when they reach the age of from fifteen to twenty it often subsides in a marked way. It may be due to one of two reasons:—either that children are liable to pay little or no attention to their teeth, and shirk the use of the tooth-brush if they have the least opportunity; or that as they approach adult life they emerge from that period when health is always in a more or less precarious condition, to that of a more settled constitution. And general health, as I said before, is bound to exercise an influence over the oral secretions. A French writer of repute has brought forward another explanation. He says that the saliva in youth contains a dextrinic principle—namely glycogen—which is susceptible of fermentation under the influence of ptyalin in the presence of earthy salts. The result is the formation of lactic acid.

I should like to emphasize the importance of impressing parents with the necessity of bringing children to a dentist every few months for a systematic examination. A dentist should take a pride in keeping his patients' mouths free not only of caries but even of fillings. It is only fair that he should have complete control over the teeth from infancy up, just as the physician has the care of the general health.

I have already spoken of general feeding; but there is a period in life when the food supply has a far greater influence over the health of the teeth. That period is from birth up to about six months. It has become the custom of recent times, as you are doubtless aware, for mothers to shirk their duties (from social or other reasons) and to feed their babies on cow's milk. Thus depriving the child of its natural food at this critical period, has a bad influence on the general constitution, but a still greater one on the developing teeth. Some people are inclined to treat this point lightly, but it is my strong belief that the more we go into the matter the greater importance the question will assume.

The question of spontaneous arrest of caries has puzzled many people for a long time. We sometimes find in cases often of extensive caries that the process has suddenly ceased or at any rate only proceeds with greatly reduced rapidity. It may be due to many reasons—breaking away of enamel so as to thoroughly expose affected dentin and so bring it under the mechanical cleansing action of tongue, lips, or saliva. It may be due to improvement of general health, possibly assisted by a more serious constitution of the saliva. Possibly the saliva which was originally acid has become alkaline.

Gentlemen, I have not gone into the question of caries at all deeply and have only given you the chief points—given you an outline sketch, as it were. I have tried to confine myself to the salient points but perchance I have left out many that I ought to have included. To have gone into the matter thoroughly I should have had to keep you yawning for several hours and that would have served no purpose but to bring down curses upon my head.

My only excuse then for the shortness of my paper is that I do not wish to weary you. Any other points you wish to bring up I shall be happy to discuss with you.

The Impaction of Third Molars.

BY H. WOTHERSPOON, '06.

[Read before the James Truman Dental Society.]

Mr. President and members of the Truman Dental Society, I have selected for my subject, "The Impaction of Third Molars."

I do not wish to dwell upon the shape or eruption of these teeth, as they are erratic; but we know that they are supposed to erupt during the period from the 16th to the 35th year, and they may have several roots or all fused into one. As a rule there is plenty of room in the alveolar process of the maxilla, and as the upper third molar is small in character, we note that this tooth is seldom impacted, as compared with the lower third molar. That has almost the reverse conditions. This lower tooth is erratic: the most troublesome tooth in the arch because of its frequent malposition; and its being so near the ramus of the mandible it is more often impacted than any other tooth.

There are three causes of impaction, first by the action of the alveolar process being interfered with, during the ages from twelve to fourteen; children's diseases, as inflammations or fevers, affecting the development of the process and crowding the arch, so at the erupting period of the third molars they are found to be impacted under the cusps or roots of the second molars. The second cause is by the cancellated tissue turning into hard bone, by the two opposing processes associated with inflammation within the jaw, and thus hardening before eruption incases the tooth in a dense bony sheath, as it is impossible for the erupting force to carry the teeth into their proper position, they are withheld in their erupting position or forced in the direction of least resistance. The third cause is due to the development of supernumerary teeth or an odontoma, around or in the path of the erupting tooth; but this rarely, if ever, delays or wedges the molars.

The diagnosis: As the impacted teeth seldom show, we must wait until some pain or sign has informed us that there is a troublesome tooth in the arch, or the bone may resorb and show the impacted tooth. Where impacted teeth come in contact with roots of the adjoining teeth, decay, infection and abscesses may follow. It is difficult to locate the impacted tooth, as patients will say that their "wisdom teeth were extracted long ago;" but all the trouble is eliminated when an X ray is taken, not only showing the tooth but its approximate position. Upper third molars may interfere with the nerve within the antrum, or enlarge the tuberosity outward until it interferes with the ramus of the mandible, producing a cellulitis and causing false ankylose. Neuralgia is a general symptom of impaction, and at times the hearing may be affected through the auricula-temporal branch of the fifth nerve.

The most common cases of impaction are with the lower third molar where its crown is under the posterior portion of the second molar, and the long axes of the teeth are at an angle of 30°. The anterior cusps of the third molars may be at or below the gingival line. Cases of this kind must be extracted to relieve the impingement upon the inferior dental nerve, and to prevent decay upon the second molars. There are several methods of extracting these—to extract the second molars allowing the posterior molars to erupt into their positions, but to do this one must sacrifice one of the best masticating teeth in the arch, and even then run chances of the impacted tooth, of weaker construction, taking this desired upright position; and if it fails to do this it is of no service to mastication. Another method is to extract the second molars to obtain room to extract the third molar, and lose both teeth. Another method is by using the surgical engine, cutting away the bone over the impacted tooth and lifting it out with an elevator. This is a good method for a careful operator, but for one unskilful there is great chance of fracturing the jaw. As for the patients, they must be confined to the hospital to recover from the effects. There is a method that I would consider as being practical and satisfactory to the patient and operator. The second molars are first devitalized and canals filled. Then with a diamond disk cut off the whole concave portion of the second molar, at the same time cutting off the anterior cusps of the third molar. After this is accomplished the patient is given nitrous oxid and the third molar is unhooked by the use of the elevator. This method is not as arduous as the others. The operator has confidence in himself and the patient suffers less. A gold filling or a shell crown will replace the second molar in its normal condition, and one is sure of the second molar being of use for many years longer.

PRACTICAL SUGGESTIONS.

Worn Mandrels.—If a mandrel becomes so rusted or worn that the screw no longer holds, a light blow with a hammer will flatten the hole slightly and cause the threads to hold as good as ever.—A. C. WILLMAN, Kankakee, Ill.

Don't do it. Buy a new one that is not rusted and worn.—EDITOR PENN DENTAL JOURNAL.

To Polish Rubber Plates.—In giving the final polish to rubber plates, I find that a polishing wheel made of about twenty-five thicknesses of unbleached muslin gives a better finish than chamois skin or a soft brush wheel. The edges of the circles of cloth become frayed and do not scratch.—A. C. WILLMAN, Kankakee, Ill.

To Prepare Aluminum Plates for Rubber.—Do not spur them. The only way to successfuly attach rubber to aluminum is by use of the loop punch sold by all dealers. Make one row near the margin, four loops on each side, and one row of eight on the ridge. Punch the loops after the case is ready for packing the rubber, for then it will be necessary to fill the palatal openings with wax.—L. P. Haskell, Chicago.

To Set an Inlay.—An hydraulic cement should be used, as it conduces much to the comfort of both patient and operator, the saliva being permitted to reach the case within two or three minutes, thus obviating the necessity of covering with varnish, etc. The excess cement should be permitted to remain until quite hard, when it can be removed and the operation finished.—George T. Banzet, Chicago.

Soldering Without Blowpipe.—Much of the soldering with 18 and 20-karat gold may be done without a blowpipe and with less risk of fracturing porcelains or melting off gold backings. Trim and shape a lump of charcoal so that it will fit into the burner without tilting, and with a depression in the top for the reception of the piece. Build charcoal logcabinwise around the work and roof over with flat pieces to radiate the heat back on the work, with an opening at the front to give a view of the piece and opportunity to add solder if needed. Clip the solder into small bits, dip in cream of borax, handling with pliers, and apply sufficient to solder the case. Light the gas and let it heat up, having the burner so located as to avoid side draughts. A surprisingly high degree of heat is thus obtained.—L. G. Noel, *Dental Cosmos.*

A Point in Cavity Preparation.—Gold unannealed, or but partially annealed, can with proper manipulation be brought into such close contact with the walls and edges of a cavity as to practically hermetically seal it, thereby insuring it against the further inroads of decay. To secure results approaching perfection in this particular it is the writer's idea that the cavity should be so formed as to give the operator as nearly direct access to the various cavity walls as it is possible to secure. In other words it is extremely difficult to adapt and condense gold by working "around a corner." The same rule applies to obtaining condensation at the edges—pressure being applied as nearly as possible at right angles to the edge to be covered.—A. J. Elmer, *Dental Review.*

To Make a Temporary Crown in Ten Minutes.—In crowning anterior teeth you all have cases in which the patient objects to appear in public minus a tooth, even for a few hours, and you find on looking over your stock that you have nothing suitable for the case, or even if you have, your time is so taken up that you cannot give him proper attention. You can solve the difficulty in a few minutes by first selecting from your plate or rubber teeth one of the proper size and shade; then take a Davis post or make one of almost any convenient material (German silver will do nicely), and insert one end between the pins of the tooth and squeeze the pins together to hold it in position; tack with soft solder by passing carefully through the flame of a Bunsen burner; try in the mouth and adjust the post; then pack any easily softened gutta-percha about the post and palatal portion of the tooth, and while soft press it to place in the mouth, holding the crown firmly between the thumb and forefinger in such a way that the gutta-percha will be forced about the root of the tooth; remove and trim away any excess of gutta-percha, and set as an ordinary crown.—C. F. GRAHAM, *Dominion Dental Journal.*

Burnishing Matrices for Inlays.—I wish to abolish the *bête noire* of beginners of inlay work. That is, the fear of getting folds in the matrix at the margins. It is of absolutely no consequence, as, if the margins be properly prepared, the folds can be burnished down to the same gage as the remainder of the matrix. The important consideration is the adaptation of the matrix to the walls and grooves of the cavity, and the avoidance of tearing it, and this can be more easily accomplished if the folds at the margins be disregarded.—GEORGE T. BANZET, Chicago.

To Obtain a Roughened Surface for Porcelain Inlays.—For obtaining the roughened surface of porcelain inlavs, coat the floor of the matrix with a thin layer of asbestos powder—M. D. LITTIG, Boston.

EDITORIAL.

The Question of Location.

THERE is probably no question of more interest to dental students, especially those about to enter upon their professional careers, than that of location. And it is important because professional prosperity and happiness are at stake.

Many things must be taken into consideration before this question can be satisfactorily settled and the student will do well to make a careful study of the matter. First of all he must decide just what he desires, that is, what results he wishes to bring about by devoting his lifework to the profession. When satisfied on this point the next thing to be considered is where he would be most likely to accomplish these results.

In general we may divide locations into two classes, city locations and country locations. The arguments for and against both the city and the country practice are almost unlimited, but there are comparatively few which are of vital importance. All of us must, however, give some thought to the financial side of the subject. There are more of the so-called better class of patients within reach of the city practitioner than the country dentist, people who desire the best of work and who are able to pay for it, but it takes time to establish a practice among that class of people and it calls for the most exact and painstaking service to hold such a practice against competition. With such a practice established the city dentist doubtless makes more money than his professional brother in the country, but inasmuch as his expenses are also greater the difference in the amount actually gained in a given length of time is probably not so great as might be supposed.

Then there is the question of social life. To those who care for the benefits derived from social intercourse the city undoubtedly possesses advantages over the country, yet social pleasures are by no means cut off from the country practitioner. The fact that he is a professional man, and therefore educated, entitles him to a good social position, whether it be in the country or in the city.

In the matter of professional standing or reputation the city also offers greater possibilities provided the man has the ability to make himself felt and recognized. On the other hand, in the country there are fewer distracting influences and a man has more time for study and research, and if he has anything of value to give to the profession there is nothing to prevent him from making it known.

The question as to whether it is best to settle in one's home town or among strangers depends upon what the dentist desires to accomplish and also upon the reputation he has at home. It has been said that one's friends expect more from one whom they know than from a stranger, but if one has sufficient tact to manage a stranger there is no good reason why he cannot do the same with a friend, possessing as he does, a knowledge of the person's character and disposition.

In reaching a final decision one should try to decide what sort of a life he is best fitted for, taking into consideration his education, tastes, temperament, etc., and he should then choose the location which will give him the greatest degree of happiness, for, after all, that is the goal for which all humanity is striving.

The Leader and the Led.

SOME men have the natural power to lead their fellowmen, but it does not follow that all men having this gift become leaders or that all leaders have a natural talent for leadership. While a man may be fitted by his personality and knowledge to direct his fellows his environment and circumstances may serve to suppress that power or at least offer no opportunity for him to display it. Men also become leaders through conditions of birth where the force of circumstances compels them to act in that capacity whether they wish to do so or not, but their competency for the position rests with themselves rather than with the influences of heredity or circumstance.

On the other hand there are individuals who are born followers, people who never seem to have will-power or self-confidence sufficient to enable them to control their own actions and who instinctively look to others for direction. This may also be due to environment, for the child who always has someone to solve his difficulties is apt to grow dependent; whereas if he were thrown upon his own resources he might become independent if not a leader.

But whatever the cause, we have, and always will have, the leader and the led, and this is true in dentistry, as well as in any other walk of life.

Now what we wish to determine is whether it is better to lead or to follow, and whether one must necessarily do either.

There is nothing bad in being a leader in itself, while there may be many advantages, but the motive for assuming leadership and the qualification for that position are more serious matters. The man who by "pull" or otherwise, forces himself to the front for the purpose of furthering his own selfish ends is sure to be found out and his downfall is hastened if he is unqualified to meet the requirements of his position. But if this is bad it is even worse to be so weak as to be influenced by such leaders and to be unable to think or act for one's self.

There is, however, one safe course open to every beginner in our profession and this is to so fit himself as to be independent, not attempting to lead, but at the same time not being led unless he so desires. Then if he has the ability to become a leader his professional brothers will in time recognize it and his influence will be honorably gained.

The fact that there are few incompetent and unscrupulous leaders in dentistry is something of which we may well be proud, and this is true because an imposter finds it difficult to influence educated men. He is compelled to "deliver the goods" and this he cannot do. The prominent dentists of today have gained their leaderships by hard and conscientious devotion of their efforts to the advancement of the profession, and if any of us are ambitious to fill their places we must do the same.

THE DEPARTMENT.

Clinics at the Philadelphia Hospital.

THESE clinics have been well attended this year. The average attendance exceeds that of previous years in proportion to the number enrolled in the classes. Many very interesting cases presented during the winter will not be mentioned here because of lack of space. Commencing with January 20th, the first case was a sequestrum caused by tubercular necrosis. The dead mass, about one and one-half inches long, was removed from the lower left jaw. There was also a tumor upon the same side of this patient's face. The second case was one of wrist-drop. Paralysis of the muscles of the hand and wrist being caused by lead-poisoning, January 27th. Some more of the necrosed bone from the jaw of the patient operated upon the previous Saturday was removed together with some cicatricial tissue. Bands had been made connecting the wisdom with the incisor teeth to hold the jaw in place. Other cases followed: *e.g.*, congenital cleft palate, acquired cleft palate, syphilitic necrosis, acute ranula, and triangular swelling.

February 3d. Progress of the previous cases cited was noted on this day and the remainder of the time was taken up as was the time on the two previous Saturdays, by Dr. Jarvis upon physical diagnosis.

February 10th. A case of leukoplakia and carcinoma of the jaw, which had eaten away part of the anterior alveolar ridges and tissues of the face, leaving this area unprotected.

February 17th. The first case was a cleft palate caused by syphilis, part of the vomer was also gone. A plate was recommended to extend back past the pharyngeal wall and to have a vertical piece extending up through the cleft, and two wings of rubber to rest upon the floor of the nose where they will not cause absorption. The second case was a swelling upon the left side of the neck above the submaxillary triangle. Cellulitis, probably caused by infection. The third case was that of an old lady having unlimited interstitial inflammation upon the chin. The fourth case was a carcinoma near the sublingual glands, very red, and resembling a cauliflower in growth. The last case was a man with a carcinoma or sarcoma upon the right side of the head covering the area surrounding the temporo-mandibular joint. It had been burned out. The working of the muscles of mastication in that region could be plainly observed and a fluid was seen oozing through the exposed tissue probably from the parotid gland.

February 24th. The first was a bad case of neuralgia. The second case a woman was anesthetized and some teeth were extracted. The third case was an extraction of two molars and the dental engine was used to cut away the bone bounding the floor of the antrum. The external wall of the maxillary sinus was gone. Although the man was insane he stood the operation well without taking an anesthetic.

March 3d. The case first shown was that of a baby having congenital syphilis and was evidenced by a sore upon the left premaxilla and one over the left eye. Presence of gonococci was also found under the microscope. The second case was an abscessed antrum. The third case was an epithelioma on the lip, as also was the fourth case. The last case was an infiltration upon the lower jaw, right side.

March 10th. A lecture and demonstration upon the X rays was given, which was very interesting and instructive.

Commencing with January 20th, George O. Jarvis, M.D., assistant demonstrator in applied anatomy at U. of P., gave a series of lectures at these clinics upon physical diagnosis, presenting the subject in a very interesting and instructive manner. A brief summary of his discourses is as follows:

INFLAMMATION
  1 *Acute*
  2 *Chronic*

Acute
  a Parenchymatous
  b Interstitial

Chronic
  a Hypertrophic
  b Atrophic

I

Acute interstitial inflammation means abscess, if it proceeds far enough.

Terminations of inflammation. Inflammatory mass may be:

1 *Absorbed* (gets well)
2 *Retained* (cold abscess)
3 *Thrown off* (liquefaction necrosis)

When there is loss of substance following inflammation the loss is replaced by scar (connective tissue). All new-formed connective tissue in adult body tends to contract.

II

INFLAMMATION, clinical signs of. Pathology of. Microscopic phenomena in.

Tissues exhibit the following phenomena in response to action of an irritant: which irritant is usually the products of the life and growth of a micro-organism:

1. Dilatation, tortuosity, and overfilling of the blood-vessels. 2. Peripheral drift of red cells. 3. Out-wandering of white cells and diapedesis of red cells. 4. In-wandering of wandering connective tissue cells, and proliferation of these and the fixed connective tissue cells of the part. 5. Proliferation of the parenchyma of the part. 6. Exudation of altered plasma.

III

This exudate may undergo:

a *Absorption*
b *Organization*
c *Necrosis*
  liquefaction
  coagulation
  cheesy

IV

HEART—Anatomy, position and function of.

BLOOD-VESSELS—Anatomy and functions of.

LYMPH SYSTEM—Anatomy and functions of.

All blood vessels, heart included, have three coats:

a *Intima* (endothelial)
b *Media* (muscular)
c *Adventitia* (connective tissue)

Lymph vessels have these same coats; but they are not so well developed.

Capillary vessels have only one coat—intima. This is composed of an endothelial lining held in place by the connective tissue of the intima. Peculiarities of heart considered as a blood vessei.

Heart has two sides:

a Arterial
b Venous

Heart has four cavities:

a Right auricle
b Ventricle
c Left auricle
d Ventricle

V

Heart has four valves:

2 Auriculo-ventricular
1 Pulmonary
1 Aortic

Auriculo-ventricular valves are held in place by chordæ tendeniæ and papillary muscles. The aortic and pulmonary (semilunar) are held by thin bases to the walls of the vessels. The entrance to which they guard.

The heart and vessels are subject to the various kinds of inflammation above mentioned. Endocarditis and endarteritis may be either acute or chronic. Continued action of an irritant or continued high blood pressure causes arterio-sclerosis or atheroma or both. These processes affect both valves and vessels with ultimate effects on the valves in any case. Valvular lesions may lead—

Either to {
1 *Regurgitation*
2 *Stenosis*
3 *both Regurgitation and Stenosis*

VI

Heart function fails with failure of coronary circulation. Heart, like other muscles, contracts and hypertrophies under an increased load. When the load is too great it attempts to contract and finally ceases.

Normal heart sounds.

Disturbance of function by lesions of heart and vessels, and the resulting peculiarities in:

1 Rate
2 Rhythm
3 Force
4 Character of sounds

Alumni Notes.

Dr. Robert R. Parks, '03, will be married to Johanna Sophia Zoll, June 15, 1906, at Philadelphia.

Dr. Edward B. Haws, '92, has removed his office from Milton, Pa., to 642 South Fifty-second Street, Philadelphia.

Dr. Albert N. Gaylord, '98, has been seriously ill, but is now recovering.

Dr. August Westerberg, '05, who is now taking special course under Dr. Peeso, will associate himself in near future with John D. Bredenberg, '03, at Weisbaden, Germany.

Dr. John B. McClain, '99, has been elected president of the Twenty-second Ward school board.

Dr. Samuel W. Collins, '02, of Wissahickon, was a recent visitor to the Department.

Dr. John C. Forsythe, '99, of Trenton, N. J., attended University Day exercises at the Academy of Music.

Dr. Henry Fowler, '00, of Harrison, N. J., spent a few days in this city and visited the Department.

Dr. Wiliam J. McLaughlin, '02, will spend a year in traveling for his health.

Dr. Charles M. Dunn, '99, of Norwich, N. Y., lately lost his mother. The JOURNAL extends sympathy to Dr. Dunn.

Dr. Arthur E. Heeley, '02, has returned to this country from Johannesburg, South Africa, where he has been practicing. Dr. Heeley expects to practice in New York city.

Dr. Edwin A. Holbrook, '04, is now located at 254 Stuyvesant Ave., Brooklyn.

Dr. Marcus G. Huidobro, '05, intends sailing for Santiago, Chili, in the near future.

Dr. Fred W. Coons, '04, is now located at Easton, Pa.

Dr. William A. Morrison, '03, demonstrator at École Dentaire, Paris, left for home and is now located, 52 Collins Street, Melbourne, Australia.

DENTAL SOCIETIES.

James Truman Dental Society.

REGULAR meeting of the James Truman Dental Society held January 18, 1906. Dr. McKay gave a very interesting talk on "Porcelain Crowns." Installation of new members.

February 2, 1906. Mr. Bowers read a very instructive paper on "Asepsis." Discussed by Messrs. Ozaki and Solomon. Mr. Ley read a paper on "Gold Inlays." Discussed by Simpson and Nuffort. President Barry appointed as Picture Committee, Adams, Peplow and McPherson.

February 16th. Dr. Roberts gave an instructive talk on "State Board Examinations and Orthodontic Appliances." Mr. Haskins read a paper on "Treatment of Root Canals." Discussed by Mr. Peplow. Mr. Chandler read a paper on "Physical Diagnosis." Discussed by Mr. Van Ness and Senior. Installation of new members.

March 1st. Regular meeting and transaction of business.

Edwin T. Darby Dental Society.

THE regular meetings of the Edwin T. Darby Society have been held as usual on the 1st and 3d Mondays of each month. The papers read have been up to the standard and the discussion of them extremely interesting. The Society has been favored by talks from Drs. Dunwoody and Chapman which were highly appreciated.

On March 12th a smoker was tendered to the faculty and demonstrators. We were sorry that owing to previous engagements Drs. Kirk and Turner were unable to be there. The rest of the faculty honored us with their presence and responded happily with remarks fitting the occasion. The society wishes to express its appreciation of the honor done them and hopes to extend its hospitality again in the future.

Edward C. Kirk Dental Society.

MEETING January 25th. Mr. Highton read a paper on "The Use of the Extracting Forceps." Mr. Kreidel read a paper on "When and Where to Extract Teeth." Dr. Seymour, the guest of the evening, entertained the society with a talk on "Somnoform," giving a demonstration of its use.

Meeting February 8th. A paper was read by Mr. Yates entitled "Dental Caries." A paper by Mr. Feldman on "The Preparation of the Mouth for Dental Operations." The society picture was taken during the week.

Meeting February 20th. Mr. Thielman read a paper, "Erosion and Abrasion." Dr. Jaco was the guest of the evening and gave some practical hints on the insertion of gold fillings. A hearty vote of thanks was tendered him by the society.

French Club.

L'AMICALE Française de l'University of Pennsylvania held a meeting in Houston Hall, February 12th. Dr. Chapman gave an interesting lecture on Dr. Angle's methods in orthodontia. The members were very much interested as was proved by the discussion that followed.

After a vote of thanks had been extended to the speaker, the society acted on a proposition made by Mr. L. Viau to elect representative members from the other students' societies of the Department in order to promote their feeling of friendship and make the work of each profitable to all. The following representatives were elected: W. F. Barry, Truman society; M. A. Holland, Kirk society; A. C. Lewis, Darby society.

At the suggestion of Mr. George Villain it was decided that a member of the preceding French society, who has returned to Paris, shall every year be appointed as corresponding member to those who are here or those who desire to come here to U. of P. and wish information. Dr. Eudlitz, D.D.S., '04, of Paris, was elected.

At the third meeting, March 5th, Dr. Turner gave a splendid dissertation on Voltaire's phrase, "Une chose si necessaire—la superflu." He spoke of the general knowledge possessed by the French people and of the necessity for the dentist to interest himself not only in the things of his profession but in general matters —art, science, etc., so as to be able to show a knowledge of all matters of general interest. That is the "superflu," and your patients will praise you more and think that if you possess so much all 'round knowledge you must be accomplished in your profession.

George Villain, in a few words, thanked the speaker in behalf of the society. Then Mr. L. Viau presented Dr. Turner with a portrait of Fauchard (the father of modern dentistry) and also a small portrait of Hunter, the English anatomist.

Mr. Villain then read a paper on Esperanto, which ended by an "ordre du jour," written in Esperanto, addressed to Dr. Kirk, expressing the admiration for him of the members of the French club and assuring him that they would gladly follow him in the path of professional progress.

The President thanked Messrs. Barry and Holland for the honor they had paid them in coming to their meeting and expressed his regret for the unavoidable absence of Mr. Lewis. In reply Mr. Holland thanked the club for the idea it had brought out in naming representatives of other socieities and expressed the hope that this example would be followed by all.

The next meeting will be held April 2d.

THE UNIVERSITY.

Sporting Notes.

FOOTBALL.

At the meeting of the Football Committee the make-up of the coaching staff for next fall's eleven was determined.

The advisory board will consist of six members as follows: Dr. Carl Williams, chairman; William N. Morice, By Dickson, George H. Brooke and Bob Torrey, field coach, and "Eddie" Green, captain, members *ex officio.* The two new members are Morice and Dickson.

Ex-Captain Torrey will be in command of the field coaching, and he will have as assistants By Dickson, Dr. John Hedges, Dr. Charles Wharton and O. F. Lamson. In regard to the back field coaches, Marshall S. Reynolds and Andy Smith are both under consideration, and it is expected that both will accept an offer to help coach the back field candidates. Dickson will be, on account of his experience, the utility coach, and he will divide his time between the Varsity and the freshmen.

CREW PROSPECTS.

From the plans made within the last week for the various college regattas to be held this spring, the approaching rowing season is likely to rank as the best in the history of intercollegiate rowing. Besides the intercollegiate regattas to be held the latter part of June, at Poughkeepsie and New London, dates have been set for three others.

These are the American Henley here on May 26, the Cornell-Harvard Varsity race at Cambridge on the same day, and the Cornell Junior regatta at Ithaca on Decoration day. In addition there are many dual regattas already planned which make it certain that the coming spring will be a record breaker for the college oarsmen.

Ellis Ward has one of the finest squads at work in the Gymnasium in the history of rowing at Pennsylvania, and hope is bright that the Red and Blue pennant may occupy its old place again.

TRACK NOTES.

The Pennsylvania relay team, composed of Jones, Haskins, Coldwater and Terry, defeated the George Washington team at Baltimore on February 3d, in the two-mile race in 8 minutes 34 seconds.

In the one-mile race at Madison Square Garden on the same night Yale won, with Cornell second and Pennsylvania third.

Pennsylvania's relay races, on April 28th, promises to be bigger and better than ever, if the managers are to judge from the interest that has been already shown. The letters of invitation to the different colleges and schools were sent out in the first part of February.

BASEBALL.

Twenty-six games are on the University of Pennsylvania baseball schedule for 1906. The schedule is the best that Penn has ever had. Two games each will be played with Yale, Harvard, Princeton, Columbia, Cornell and Brown. The Yale dates are farther apart than ever before and the Red and Blue has obtained the most desirable date on the Princeton calendar, playing at Princeton on Commencement Day, June 13th.

John Blakeley, chairman of the Baseball Committee, has been appointed head coach and will select a board of coaches from the ranks of former Red and Blue stars. Thielman, the former Cincinnati twirler, who is now a student in the dental department of the University, will assist in coaching the boxmen, and Harry Davis will probably be engaged to develop hitters.

LACROSSE.

The United States Intercollegiate Lacrosse Association has been divided into a northern and a southern section. The northern section contains Harvard, Columbia, Cornell and Pennsylvania; the southern section is composed of Swarthmore, Johns Hopkins, Lehigh, and Stevens. The winners of the sectional divisions will play for the championship of the East.

BOWLING.

The first bowling contest ever played in an Intercollegiate Bowling Association series, took place at Houston club alleys on February 28, 1906, between Haverford and Pennsylvania. Penn won all three games with 764, 833, 802; Haverford, 730, 713, 706.

BASKETBALL.

The Varsity basketball team closed one of the most successful seasons since the beginning of the sport at the University. It not only won the Intercollegiate championship, but defeated the best colleges that were not represented in the League. At the first of the season the prospects were not very bright for a winning team as Flint, this year's captain, was the only man who had played in every game last year, with Ehlus and Sprague back. Seventy-five reported when the candidates were called out, and of these Keinath, McCrudden and Kiefalus, all freshmen, made the regular team. Fitzpatrick, Stengal and Sprague were three substitutes hard to beat, and made the regulars play hard all the time to keep their places. Too much praise cannot be given Coach Russell Smith, '03, College, for the way he has developed the team. The scrub team was a good one this year, which helped to make the Varsity. The Pennsy team was the lightest and youngest in the League. They had the least number of fouls called on them of any team this year. Dr. Sharpe of Yale, who referred most of the games at the Franklin Field gymnasium said: "Pennsylvania had the cleanest players in the League."

Penn won nine games and lost one. The first game in the League was with Columbia on Penn's floor; this was lost 14 to 12, but was not a disgrace as Penn played all around their large opponents. In the ten League games Penn scored 248 points to 135 for opponents. This is more points than any team scored and also the least scored upon.

The crowds which have attended the games have been the largest since the game was first introduced here. Six members of the team were awarded the Varsity "P" and gold medals from the Intercollegiate League. Sprague and Stengal were given their P.b.b.

Captain Flint of Penn led the League in scoring with 142 points, having scored the greatest number of field goals, 33, and also fouls, 76. Captain Griffiths of Harvard is second with 93; Moore of Columbia third, with 82. The standing of the League is as follows:

	Won	Lost
Pennsylvania	9	1
Columbia	7	3
Harvard	6	4
Yale	4	6
Princeton	3	7
Cornell	1	9

George M. Flint, captain of the most successful basketball team that has ever represented Pennsylvania, and leader of the intercollegiate basketball champions for this year, will again captain the Red and Blue team next season. Flint was elected on the first ballot by his teammates at the annual election Saturday evening. Flint was undoubtedly the finest college basketball player of the year. He holds the record of the year for scoring the most points, having a total of 141 points, while his nearest competitor, Captain Griffiths, of the Harvard team, falls below the 100 mark, having 91 points. Flint has made an ideal captain, and is a very popular man in college. Flint prepared for Penn at the Pittsburg High School and entered the University in the fall of 1904. He is a member of the sophomore class of the Dental School and belongs to the Delta Sigma Delta. In order to give the devotees of the sport another chance to see the winning basketball team, a game with the alumni has been arranged, which will be played the first of next week.—*Public Ledger.*

University Day.

University Day of 1906 was one long to be remembered by the students of "Old Penn." Nearly three thousand students marched from College Hall to the Academy of Music, led by Beal's band.

The seniors of the different departments occupied the floor, and the balconies were filled with under classmen and friends of the University. At eleven o'clock the faculty and recipients of honorary degrees, led by the Provost and Vice Provost, marched onto the stage. The candidates for degrees were presented by the Public Orator, Dr. S. Weir Mitchell, and as the degrees were conferred each recipient was heartily cheered by the student body.

Provost Harrison, after a short address, introduced Dr. Henry van Dyke of Princeton, who delivered the oration. He took for his subject, "Washington and the men who stood with him."

Exchanges.

It gives us pleasure to acknowledge the receipt of the following exchanges: *Australian Journal of Dentistry, Dental Cosmos, Medico-Chirurgical Journal, Alumni Register, Le Laboratoire, Revista Odontologica, Dental Record, Dental Digest, Dental Summary, Dental Brief, Tydschrift voor Tandheelpunde, Western Dental Journal, Shikwa Gakuho, British Journal, Vierteljahresschrift für Zahnheilkurde, The Bur.*

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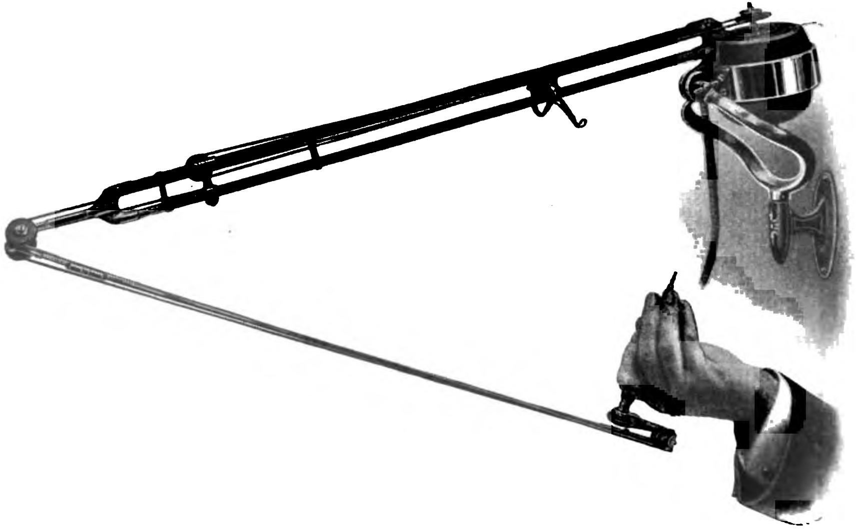

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$5.00

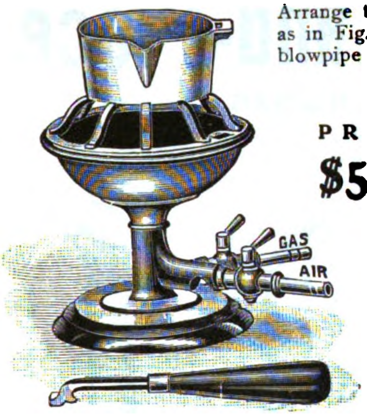

FIG. 2

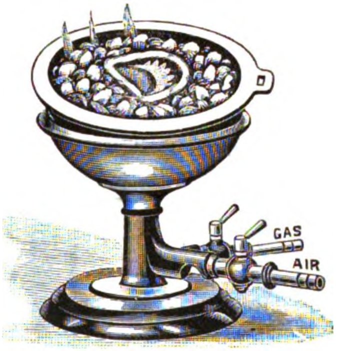

FIG. 1

TO MELT METALS for dies, arrange as a Ladle Furnace (See Fig. 2). Melts lead or zinc in a surprisingly short time.

Catalogue "D" describes it fully

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This Clamp is designed for superior incisors and is readily manipulated.

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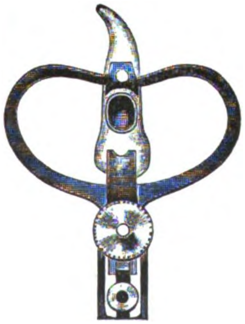

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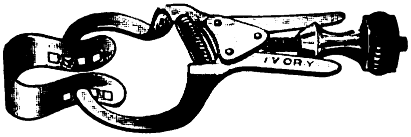
PATENT APPLIED FOR



Price, with One Dozen Bands,	$2.00
Bands, per dozen,	25 cts.
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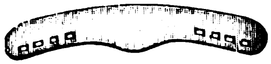

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Octangular Hand-Piece

FOR DENTAL ENGINES

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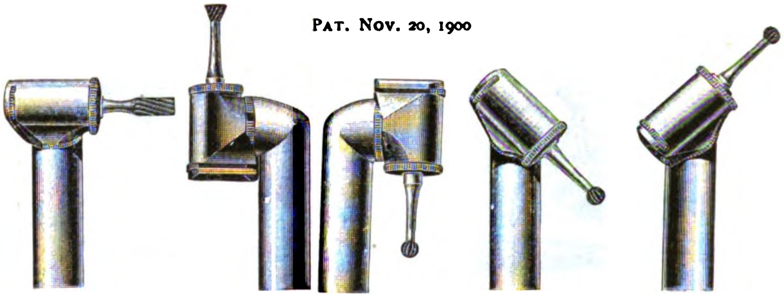

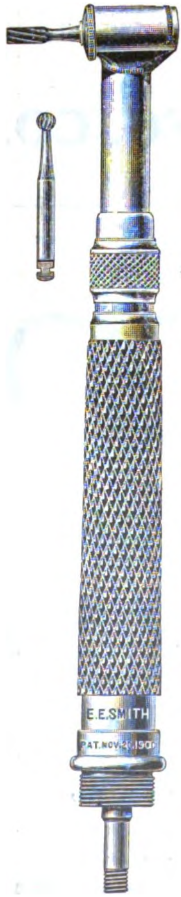

Fig. 1.—For Slip Joint Connection.

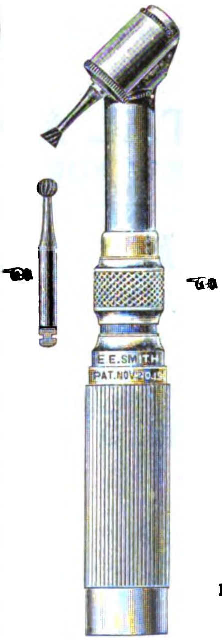

Fig. 2.—For Universal or Cone Journal Hand-piece.

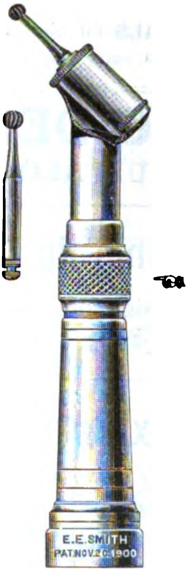

Fig. 3.—For Doriot Hand-piece.

This is the outcome of over 20 years' experience in the manufacture of Dental Instruments, and was originally perfected after months of diligent effort on the part of a skilled mechanic.

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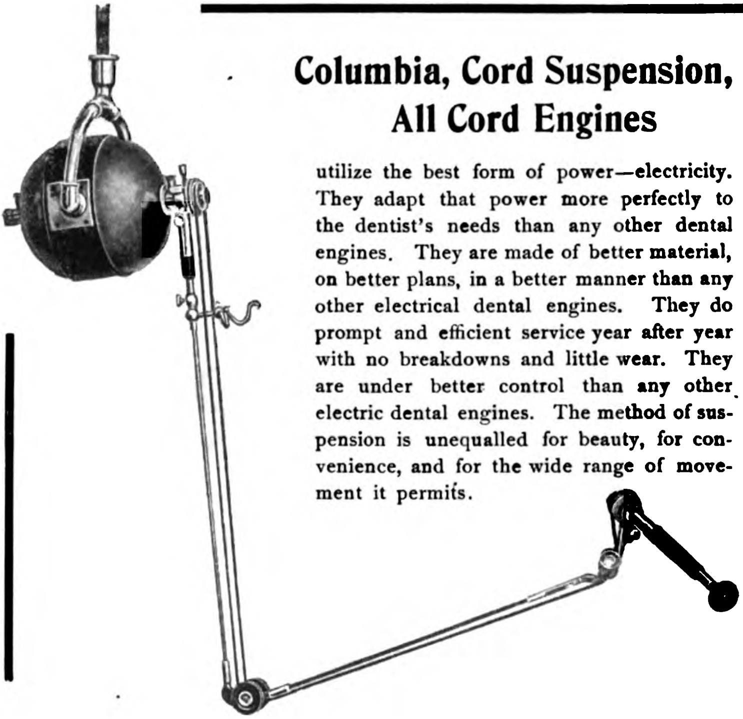

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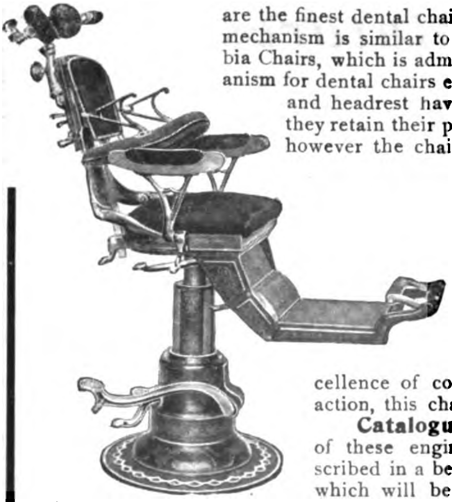

are the finest dental chairs ever produced. The lifting mechanism is similar to that used on Favorite Columbia Chairs, which is admittedly the finest lifting mechanism for dental chairs ever devised. When the back and headrest have been adjusted for a patient, they retain their proper relations to that patient, however the chair back may be raised or lowered. This is a new feature of great value and convenience and permits easy and simple manipulation of the chair in case of need. The upholstered back is in two parts and forms, when opened, a handsome and convenient child's chair. For beauty of design, excellence of construction and smoothness of action, this chair is unequalled.

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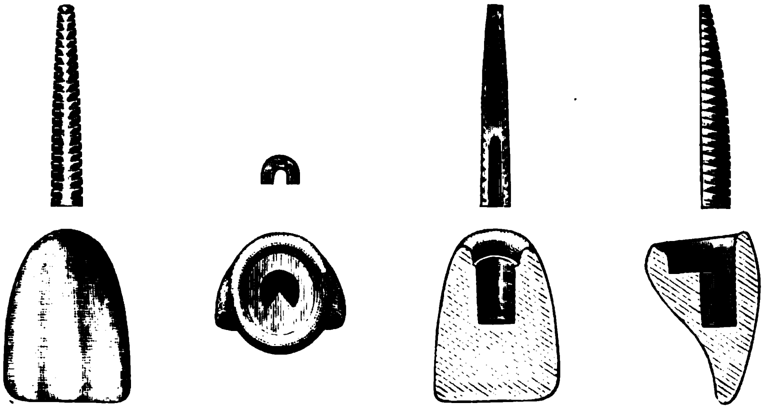
PATENTED MARCH 6, 1900 D. R. G. M. 119,559



This crown is submitted to the Dental Profession with the utmost confidence that it will prove superior to all others.

It has all the admitted advantages of the detached pin crown without any of the objections.

RIGIDITY The shape, both of the cavity or recess in the Crown and of the base of the pin, cause the pin to be held rigidly; it can neither twist nor tilt.

STRENGTH The grooved undercuts in the Crown and the serrations on the pin make an absolute anchorage for the Cement; the pin therefore cannot pull out.

STABILITY The pin is a combination of platinum and silver, will not discolor the root, and will take the highest grade of solder. It is very much stiffer than platinum, is not brittle and can be bent to any desired angle without the slightest risk of cracking or breaking.

BEAUTY These crowns have the additional superiority of the Justi Porcelain and the Justi Shades, while the molds are worthy of our reputation, which means that they are unequalled.

The above advantages make the **Justi "Detachable Pin" Crown** the best porcelain Crown offered to the profession.

PRICES

Retail	$25 lot	$50 lot	$100 lot
Each .40	.37	.34	.31

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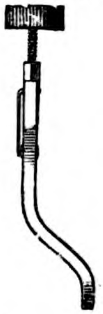

Superior To Them All

Will separate any teeth with least discomfort to patient.

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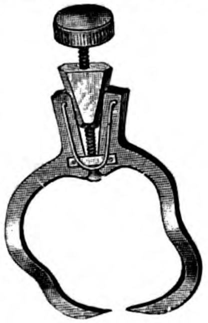

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Exact size of separator.

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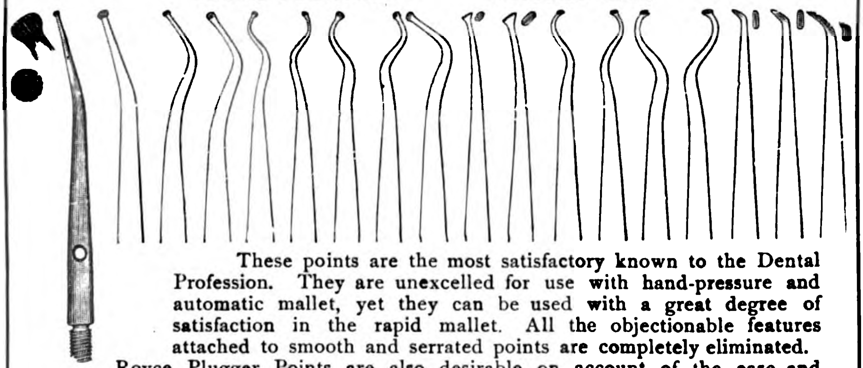

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Patented October 2, 1888; February 3, 1891

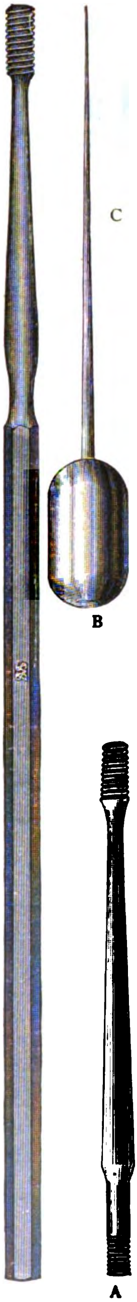
This device utilizes the great heat-conducting property of silver to the simplification of one of the difficult problems in operative dentistry.

The appliance is made in three parts: the tapered silver probe, the oval copper bulb, and the octagon steel handle, which are put together in a moment for use, and as quickly taken apart for cleansing.

The tapering probe is passed through the bulb from the rear, and the steel handle is screwed in behind, locking it firmly.

The oval mass of copper (B) is heated to a dull red, the heat passing rapidly along the silver probe (C), which is inserted as far up the canal as possible, evaporating the moisture and gases and carbonizing any organic material in the canal and tubuli. The shank (A) is for use with Cone-Socket Handle.

The simplicity and effectiveness of the Evans Root-Drier have been long known and appreciated by a wide circle of users.



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Complete, Silver Probe, Copper Bulb, and Steel Handle		$1.75

PARTS SEPARATELY

Steel Handles	each	$0.45
Cone-Socket Handle Attachment (see A)		.35
Copper Bulbs	each	.45
Silver Points	"	.85

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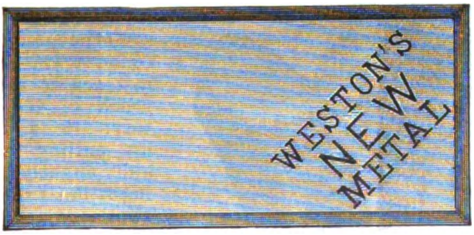

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It is easily cast, has perfect adaptation.
It has the fit,—neither warps, springs, nor changes its form.
It is clean, tasteless, harmless in the mouth.
It is old and tested. Its use has been the foundation on which successful practices have been built.—its users could make satisfactory lower plates where other materials failed.
Put up in ½-lb. ingots, ample for a case.
A 2-cent stamp with application will bring a sample with instructions or use, and a free booklet telling all about it.

Price, Weston's New Metal	per ingot	$0.75
" Solder for same (½-oz. ingots, Hard or Soft)	per oz.	1.00

The S. S. WHITE DENTAL MFG. CO.

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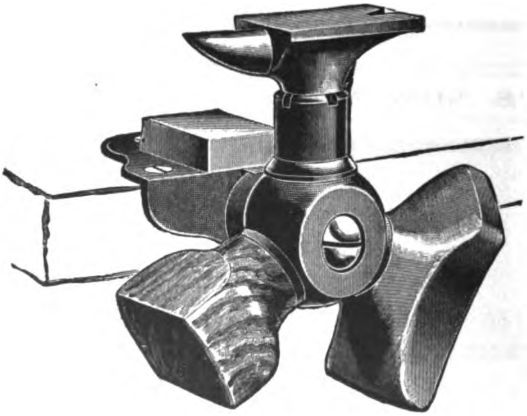

This combination tool consists of a hub carrying a case-hardened steel anvil, a parvulcanized rubber block for filing, and a wood block for the same purpose, mounted on a bracket to be fastened to the work-bench of the laboratory. It is adjusted by pulling out the hub slightly, revolving it until the proper appliance is in position, then releasing, when it is held firmly as placed by a friction-clutch. The bracket also affords a hammering surface.

Price, complete $3.00

DUPLICATE PARTS

Brackets	each	$0.50
Anvils	"	1.00
Rubber Blocks	"	.35
Wood "	"	.15

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CELLULOID PLATES

Celluloid can be used as a complete plate or as a gum facing on a vulcanite or gold.

Celluloid is grateful to the mucous membrane.

Celluloid requires no more labor or skill in its manipulation than rubber.

The variety of blanks is sufficient to meet every need. Five different series are made, each with from four to eight sizes, giving a variety of thirty-three plates to select from.

ORDINARY UPPERS.—Eight sizes; smallest, No. 3, 1¾ inches x 2 wide, running up to No. 6½, 2⅛ x 2¾ inches. The half numbers (3½, 4½, etc.) are the same *sizes* as the even numbers, but much heavier.

UPPERS........	Nos.	3	3½	4	4½	5	5½	6	6½
	Price,	$0.16	.20	.18	.22	.22	.25	.27	.29

"A" PLATES.—Same sizes and numbers as ordinary uppers, but double thickness, for cases where great absorption has taken place. They are marked "A" on the upper surface.

UPPERS "A" ..	Nos.	3	3½	4	4½	5	5½	6	6½
	Price,	$0.23	.24	.24	.28	.30	.30	.39	.44

LOWER PLATES.—Seven sizes; No. 1½, smallest, to No. 4½.

Lowers	Nos.	1½	2	2½	3	3½	4	4½
	Price,	$0.12	.13	.16	.15	.21	.21	.26

PARTIAL PLATES.—Three varieties, 2 sizes of each. Nos. 5 and 6 are for ordinary cases; Nos. 7 and 8 for cases where the front teeth only are to be replaced; Nos. 9 and 10 for the side teeth.

Partials.......	Nos.	5	6	7	8	9	10
	Price,	$0.08	.10	.13	.16	14	.18

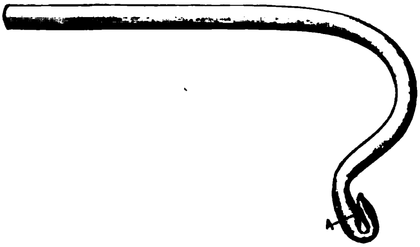
PLUMPER PLATES.—Four sizes, Nos. 3, 4, 5, and 6. Nearly the same size as the ordinary uppers of same numbers, but with very heavy rim, for cases where the gum is much absorbed.

Plumpers......	Nos.	3	4	5	6
	Price,	$0.27	.36	.43	.35

Improved Glass Mouth-Piece

Patented June 4, 1895

DR. J. SIMONSON'S



In this very practical device, suggested by Dr. J. Simonson, the orifice at A is protected by turning back over it the end of the tube, so that the mucous membrane of the mouth will not be drawn into it, and it will be less liable to obstruction from any cause. Adapted for use with our Improved Saliva Ejector.

Price.......per doz. $1.00 Each $0.10

THE S. S. WHITE DENTAL MFG. CO.

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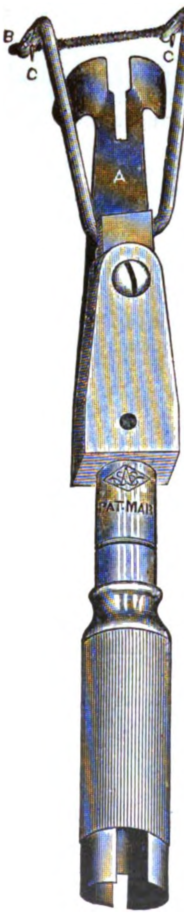

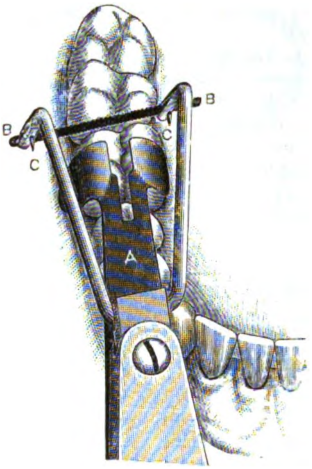

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THE
PENN DENTAL JOURNAL.

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COMMUNICATIONS.

Gold Inlays.

BY ROBERT SEYMOUR, D.D.S.

PREPARE cavity same as for porcelain—use pure gold No. 40 for matrix. Take impression of cavity in lac or modeling compound—I prefer Detroit compound for this purpose. For compound cavities in molars or bicuspids—and it is in such cases where these fillings are indicated—form little impression-cups of German silver and so shaped that they carry the compound down to the cervical border of the cavity. Oil this impression and pour model in Spentz metal. Now burnish gold into cavity of the model, and when well in position place model in ash inlay swager, and by pressure with water-bag plunger carry to place. If cavity has little retention in general shape, drill into the most solid portion of tooth a hole larger than a tooth-pin, place matrix in position, and pass pin or pins through into tooth. Now press yellow wax into matrix and remove matrix and pins; invest and flow a little solder over pins and floor of matrix. Return matrix to cavity and burnish cavity margins; remove and invest; paint exposed gold on side cavity margins with a solution of rouge, and cavity is ready to fill. In simple masticating cavity this is easily done with 22-k. solder. In compound cavities, when corners must be restored, use pieces of 22-k. plate and 22-k. solder. Remove from investment, turn matrix, and place in tooth; correct articulation by grinding out polish and cement in place.

The Making of Dental Alloys.

BY WM. H. T. COLLINS.

[Read before the Edwin T. Darby Dental Society.]

Mr. President, Gentlemen:—

THE making of alloys to be amalgamated and used as filling material is a branch of dental manufacture that should be understood by all practitioners of dentistry, whether they expect to make their own alloys or not.

It was formerly the custom of manufacturers to melt the highest fusing metals first, and to add the other metals in the order of their fusibility. This is the procedure followed by metallurgists in the making of such alloys as brass, bronze, etc.

The late Dr. J. Foster Flagg, who made a life-long study of dental alloys, as the result of a wide experience, became impressed that it was not the best way. He reversed this order, and directed that the metal fusing at the lowest temperature be melted first. His method was to take a hessian or sand-crucible, and coat the interior with powdered borax (being careful to work the borax into the pores of the crucible). The crucible is then placed in either a common coal fire or an ordinary dental blast-furnace and heated until the borax becomes thoroughly fused and is clear and liquid as water. The metals—thoroughly mixed—are now placed in the crucible. The tin immediately melts and sinks beneath the fused borax, and seems to act as a solvent for the higher fusing metals. It is surprising how readily and quickly the metals fuse when the borax has been previously melted, and how free the metals are from oxidation.

If zinc is to be a component of the alloy, it should be cut into small pieces and added after the other metals have fused, and the alloy quickly poured into the ingot. If the zinc is put into the crucible before the other metals are melted, the high heat required to fuse them will be sufficient to volatilize the zinc, and much of it would consequently be lost. The oxidation of the zinc can be controlled as readily as can the oxidation of the tin, by the covering of fused borax, but nothing will prevent its volatilization. It escapes from the crucible just as water heated beyond its boiling point escapes as steam from an open vessel. The only way to limit this loss is to quickly pour the alloy into the ingot as soon as the zinc is added.

When the entire mass has assumed a molten condition, it should be stirred with an iron rod or clay pipe-stem to make sure that the metals are thoroughly mixed, and then should be immediately poured into a suitable ingot. The ingot-mold may be either cylindrical in form or flat. Dr. Flagg preferred an open ingot-mold, as favoring the prompt cooling of the alloy, to avoid the metals separating during setting.

The alloy is prepared for use by cutting it into fine grains, filings, or shavings. There are two methods of accomplishing this. The first and older method consists of filing the flat ingot with a large medium-cut file. This method is slow and laborious. After the filing is completed, the filings are passed through a fine-meshed sieve to remove coarse pieces of alloy and particles of foreign matter which may have dropped into the filings during the filing process. A magnet is then passed through the filings to remove particles of iron or steel that may have broken from the file.

The second, and probably the best method, is to cast the alloy in a cylindrical ingot and cut it into shavings by means of a chisel in the turning lathe, or this may be equally well done in a milling machine. I have cut up a ten-ounce ingot in the turning lathe inside of thirty minutes.

Before the alloy is amalgamated with mercury and used in the mouth, it should be subjected to a process known as "aging" or annealing. This process consists of subjecting the alloy to a certain degree of heat for a given length of time. The amount of heat and time required to do this are matters of experiment. This is merely a rapid method of imparting to the alloy properties which it would become possessed of if allowed to stand for a long time—three or four months or more.

One method of annealing is to place the alloy in a tightly closed jar, put the jar in a pan of cold water and allow the water to come to a boil. Do not put the jar into water that has already come to a boil, or you will break the jar and give yourself some extra work. In the alloy I have assisted in making, I have placed the jar in the heating chamber of the house furnace, and allowed it to remain there two or three days.

Exactly what physical change is produced by this process is not well understood. Its effect, however, is to slow the setting, make the amalgam work smoother, and it also controls in a marked degree the change in dimensions the amalgam undergoes during the crystallizing or setting process, known technically as expansion and shrinkage.

I have found it advantageous to slightly modify Dr. Flagg's method by placing the tin in the crucible first, and when it is fused adding the other metals. The tin sinks beneath the borax, when it looks like so much mercury. The heat required to thoroughly fuse the borax is a little less than that needed to fuse pure silver.

If platinum is a component of the alloy, it should be added to the tin before the silver,—it then becomes thoroughly diffused through the mass, as it has a strong affinity for the tin. Added in any other way it probably would remain as a mere mechanical admixture with the other metals, and affect the character of the alloy slightly, if at all.

It is not my purpose to consider the question of formula. So much depends upon the manipulation of any amalgam-alloy, that dental practitioners of long experience differ widely in answering the question, What is the best formula for alloy? Much may be learned, however, by making up small lots of different formulæ and noting the various characteristics manifested by these alloys when used in the mouth. By varying the quantity of mercury used, and by different manipulation of the mass in preparing it for use, and when inserting it into the cavity, its behavior can be greatly varied, and much of practical value may be learned by so doing. The formula of alloys on the market are for the most part trade-secrets; but little is really learned by experimenting with these, as the information needed to make the experiment valuable is not available. Many formulas are to be found in the text-books,—with them one may experiment, and may soon learn which of the many will best suit his own individual needs.

Preparation of the Mouth for Dental Operations.

BY B. FELDMAN.

[Read before the Edward C. Kirk Dental Society.]

I HAVE chosen for discussion tonight a subject which should be of great interest and of great practical importance to every one here, namely, the Preparation of the Mouth for Dental Operations. You will presently notice that the subject is altogether too large in scope to be discussed at length in one paper, so I will, therefore, confine my attention mainly to the preparation of the mouth as a necessary procedure in the treatment of the most common of the oral disturbances.

The greatest aim of dentistry is to restore the dental and oral structures from an abnormal, unhealthy condition to a normal, healthy one. Upon the success and thoroughness with which we carry out this aim depends our success as dentists. The patient seeks our services with but one understanding, and that is, he wants to have his mouth restored to as healthy a condition as it is possible for us to get. And what should a normal healthy mouth be? A mouth to be normal should consist of the following structures: First, there should be an upper and a lower arch of teeth, each having sixteen teeth, which teeth are in proper occlusion and free from any infection (such as caries, inflammation, etc.). Secondly, the gums which surround the teeth should be firm, dense, fibrous, elastic, and pink in color. Healthy gums are insensitive to considerable pressure; and, thirdly, the saliva should be clear, viscid, and slightly alkaline in reaction.

Any deviation from this would render a mouth abnormal. Loss of teeth, decayed teeth, inflamed gums, or an acid saliva would render a mouth abnormal. These latter are the conditions that exist in the mouths of the majority of the patients that present themselves to the dentist. I refer to the class of people who would not go to the dentist until some oral trouble forces them to do so.

The first step in the treatment of any patient, and particularly the class of patients I just referred to, is the establishment of an antiseptic, hygienic condition of the oral cavity. It is revolting to perform operations on unclean mouths, which as a general rule give off an offensive odor. So always give the mouth a cleaning before you proceed with any other operation. Besides the question of your personal comfort, which, by the way, is a point you should consider whenever you can, is the fact that you can do so much better work; so much more satisfactory, and more lasting work on a mouth that is clean than on one that is infected. And this is getting a long way into the patient's good faith and appreciation. Begin your operation in the right way, and it inspires you to a successful result of your treatment. A hygienic mouth would give the operator little reason for fear of subsequent inoculation of any part that was infected. You can easily see that the susceptibility of the mouth to infection is rendered a very easy matter. Dr. Truman calls the mouth "the vestibule of life." And this is, figuratively speaking, what it really is. All of our food passes through the mouth before it is taken up by the body. Infected food, particles of food that are fermenting between the approximate surfaces of the teeth, impure water, unhealthy surroundings, are a few of the many causes of the infection of the mouth. The important point, however, is this: that sometimes these bacteria which cause the infection are the most virulent of any we know. Mouths apparently healthy may be the seat of the most contagious and dreadful diseases. The bacillus pneumococcus, which causes pneumonia, has been found to exist in 60 per cent. of normal, healthy mouths. The human body when healthy is able to overcome these organisms; but as soon as the vital resistance of the body is reduced, the bacteria are able to begin their work of destruction. The operator is, therefore, cautioned against his liability to infection from an unsuspected patient. Among the various diseases to which he is liable to become infected are tonsillitis, diphtheria, suppurative inflammation, tuberculosis and syphilis. His safest and surest guard is the absolute sterilization of the mouth he is to operate on.

At the same time, the operator can prevent the spreading of disease from one patient to another by the use of clean, sterile instruments. Patients have been known to become infected from the use of unclean and infected instruments, and deaths have even been recorded as the result of this infection. In fact, everything connected with the operation should be sterilized, properly cleansed in the patient's presence, as it increases his or her confidence in your cleanliness. Thorough washing and scrubbing with hot water and antiseptic soap will answer the purpose admirably. A five-per cent. solution of carbolic acid or a 1/1000-per cent. solution of mercury bichloride should be used on the hands of the operator for operations on soft tissues. Use clean and freshly laundered napkins and towels. As a popular advertisement has it, "their use is a fine habit." Be very particular with the sterilization of your instruments; one instrument should not be used on two different patients without being sterilized. When you finish using it for one patient, sterilize it before you use it again. The most effective methods employed for the sterilization of instruments are (1) boiling them in water, and (2) dipping them into antiseptic or germicidal solutions, such as formaline, carbolic acid, etc. Rubber dam when once used should be thrown away. Too much stress cannot be laid upon the strictest cleanliness in every detail and of the complete sterilization of each and every instrument to be used in any operation.

Sterilization of the mouth and the teeth is accomplished by the correction of all disturbances that are present in the mouth. Calcareous deposits or tartar should be removed. The organic matter that they contain undergoes decomposition and causes a foul odor, which is very disagreeable and annoying. Hard tartar crowds the gums, irritates them, and eventually causes their resorption with the accompanying death to the peridental membrane. The occurrence of tartar is influenced greatly where the oral secretions are thick and ropy; removing the tartar in such conditions is of no avail, as the tartar recurs. A change of environment, with a change in the mode of living, and especially that of diet, will bring about a more healthy condition of the general system. All colored deposits, known as stains, may cause a softening of the enamel under them and produce erosions. They can be, and should be, removed by the use of iodine followed by pumice and H_2O_2. All carious cavities should be filled temporarily or permanently. All suppurating teeth should be treated, and those that are too far gone for treatment should be removed. Inflamed gums should be treated by the liberal use of antiseptic mouth washes. The mouth will then be fairly well sterilized.

It is a known fact in medicine that a great many oral disturbances produce corresponding diseases of the general system. This leads me to what I consider to be one of the vital topics of my paper, namely, the relation of the health of the mouth to the health of the body. Thus, an infected molar or bicuspid may infect the Antrum of Highmore (the nasal organs), may extend to the frontal air cells, and even to the brain case, as Dr. Cryer has so admirably shown us. The pus flowing from an abscessed tooth into the mouth may be carried along the alimentary canal and set up new abscesses all through the body, and thus cause blood-poisoning. Hyperemia of the gums may develop into a malignant form of cancer under improper care or neglect. Loss of masticating teeth not infrequently produces dyspepsia, as the patient presents to the stomach masses of food which are much larger than can be perfectly digested. These are, of course, the most serious of the possible results of the diseases of the oral cavity, but they all point toward the absolute necessity of the prophylactic treatment of the oral cavity.

Oral prophylaxis, if practiced thoroughly, would do away with all diseases associated with the mouth; it would stimulate the organs of the mouth to their normal function, and would restore the general good health of the patient. How conservative and lasting such treatment would be, and how much credit it would reflect on the dental profession! To effect this result, a good method is in the examination of the mouth at appointed and frequent intervals, and the prophylactic treatment at these various sittings. The earlier you begin the better. The newborn child should have its mouth antiseptically washed with borine, and it should receive none but sterile food. All intestinal and gastric disturbances are thus done away with. The old adage "that an ounce of prevention is worth a pound of cure" was never so applicable and valuable as it is to dentistry. The highest art in healing is not to cure disease, but to prevent it. It should, therefore, be the highest duty of the dentist to prevent the development of oral diseases and to check their ravages as soon as possible. In doing this he can be helped materially by the patient co-operating with him. People have the greatest fear of the dentist, but if he but impress them with his humane desire to help them to build up their bodies, they will gladly and eagerly give all the help they can. Much can be attained by the patient brushing the teeth after each meal, following it up by the use of floss silk between the approximating surfaces of the teeth, and the assiduous use of mouth washes. The mouth wash should aim to remove the existing dental disorder. Thus an astringent mouth wash would make sore, bleeding gums firm and resistant. The following is recommended by Dr. Miller for inflamed and sore gums:

℞—Saccharin	4 gr.
Acidi benzoic	5.00
Tinct. Eucalyptus	30.00
Absol. alcohol	100.00

To be used for inflammation and suppuration.

Hydronaphthol, phénol, permanganate, glyco-thymoline, listerine, borine, etc., are other good mouth washes. But each one has its place, and the dentist should use his judgment as to which wash he should prescribe.

In conclusion, I might say that the dentist of the future is the man who can prevent the existence of disease instead of curing the same. Oral prophylaxis is the one great method by means of which this change can be brought about, and I invite your closest study to this important subject.

Dental Inlays.

BY STANLEY W. SPICER.

[Read before the Edward C. Kirk Dental Society.]

Mr. President and fellow members of the Kirk Dental Society, the subject which I have chosen for my paper this evening is Dental Inlays. The use of the inlay in dental practice is not, as many suppose, a modern addition to the profession. As far back as the history of dentistry goes we find traces where inlays of some variety were used. In the old German times, inlays formed of solid pieces of lead were driven into cavities of the teeth, and investigators have found at a still earlier period that various kinds of stones were used as filling materials.

At the present day we find inlays made of several materials, the most important of which are gold, porcelain, amalgam and glass. Gold as a material for inlay work is best made use of in the bicuspids and molars, preferably for large compound cavities. In cases of this kind we get our matrix in gold foil of medium weight. This is burnished very carefully to the walls and margins of the cavity. Large pellets of gold are then packed in the matrix until it is filled, when it is removed and fused over a Bunsen flame. Gold is then added and fusing kept up until the margins are filled. When the inlay is completed a small hook or staple is soldered on the inner surface. This gives more retention for the cement. Inlays of amalgam have never come into general use very much. They are made in various shapes and forms, and are inserted and held in place by a film of freshly mixed alloy. The glass inlay is another variety that has been very little heard of. These are made by securing a matrix and fusing glass in it.

The next and probably most important material to be considered in the making of inlays is porcelain. Porcelain is a substance composed of feldspar, silica, and kaolin, in various proportions. The different shades are obtained by the addition of various oxides of gold, tin, and cobalt, etc. Porcelain has a very extensive use in the dental profession aside from the making of inlays. It is very successfully used in crown and bridge work, and for continuous gum work. In the making of crowns or bridges, or continuous gum work, platinum is always used for a base either in the shape of foil or wire.

Inlays made from porcelain are practically always indicated for the anterior teeth, except in such cases in the posterior teeth where the force of mastication is not brought to bear directly upon the inlay as on approximal or buccal surfaces of the bicuspids or molars. The process pursued in the manufacture of one of these inlays no doubt is quite familiar to most of us present. The first step is the preparation of the cavity, and great care should be ever used in preparing a cavity for the introduction of an inlay, possibly more care than if it was for the insertion of a gold filling. The enamel walls should all be made perfectly flat with a slight bevel outwards. Undercuts are to be avoided, in order that the matrix may be withdrawn more readily and without fracture. Rounded or oval corners are always preferable to sharp angles, as it is next to impossible to get a well-defined matrix from the latter. After the cavity has been prepared the next thing which presents itself is the obtaining of a matrix. For this we may use either platinum or gold foil. If platinum is used it may be burnished directly into the cavity or burnished from a die taken from an impression of the cavity. The latter method probably gives the more accurate matrix, but the former no doubt is the quicker way. If we adopt the former procedure, the foil is cut to the required size and is then well annealed. It is now rounded slightly and forced up under the gum, and held in place with the left hand, while, with a burnisher in the other hand, it is very gently burnished over the margins. Now by burnishing from the margins towards the center of the cavity, the matrix may be carried to all walls of the cavity very quickly. It is also a very good plan to fill the bulk of the matrix with a piece of gum camphor or wet cotton, and by holding a piece of tape tightly over the matrix all wrinkles and creases can be thoroughly burnished out.

The next step, after having secured our matrix, and probably the most difficult to the beginner, is the selecting the shade of enamel, and as this is a point that can only be acquired by experience, I will pass on without further comment except to say that it is an absolute necessity that the teeth be all cleaned and polished before any attempt is made towards the selecting our shade. If this precaution be not taken we are bound to have a vast difference between the finished inlay and the tooth.

Let us consider for a moment the method pursued in obtaining a matrix from an impression of the cavity. The impression may be taken with either gutta-percha, wax or cement. Of these, cement is probably the best. Before the introduction of the cement into the cavity, it should be moistened and then, when the cement is thoroughly set, it can be removed very readily. Some operators use dental lac to get the impression of the cavity, and from this impression run a die of some fusible metal. Probably the best to use for this is Spence's metal, as this will give a very accurate and well-defined die. The matrix may be burnished over this die or else swaged by means of a counter-die in a press. After the matrix has been obtained the inlay is then finished in the same manner as previously described. When the inlay has had its final baking, it is well to try it in the cavity, and when removing the matrix it should always be borne in mind to tease the matrix gently away from the margins, as they are very liable to fracture. Inlays may be cemented into place with most any of the cement on the market. After an inlay is cemented in place it should be either wedged in place or tied tightly with a ligature until the cement has thoroughly hardened. If gold foil be used for a matrix it is always necessary to burnish it from an impression, and as gold is so very fragile it is always necessary to invest the matrix before the application of the porcelain, as this takes up considerable time. I should say that the platinum is a much more suitable material for the matrix.

In concluding these few brief remarks I might say, that in all the various branches of dentistry that I have thus far experienced, porcelain work seems to be the most interesting.

PRACTICAL SUGGESTIONS.

Fees.—Good dentistry belongs to a high order of skill and cannot be acquired without preparation, integrity and perseverance. Without the aid of skilful dentistry humanity could not have health and attain longevity. We are, therefore, as practitioners of a branch of the healing art, important factors, and cannot be dispensed with. In the sphere we operate we are quite as necessary as is the physician and surgeon, for it takes the combined skill of the three professions to keep the human body in a fair state of health. Our remedy then lies in the appreciation of this fact, and a fee commensurate with service rendered should be considered in every case we treat, every case we operate upon, and every denture we supply.—W. H. CHILSON.

Worn-out Mandrels.—Worn-out screw mandrels will hold a stone nicely by using a little soft cement on the screw in putting it in place.—F. B. JAHR, *Western Dental Journal.*

Extracting Frail Roots.—If a frail root be filled with quick setting cement just before extracting—of course allowing time for the cement to set—the danger of crushing with the forceps is lessened. Care should be taken not to force the cement beyond the apex.—A. M. WAAS, *Dental Review.*

Pulp Extirpation with Cocain.—Dissolve cocain crystals in adrenalin solution 1 per mille and there will be no hemorrhage. Wrap a few fibers of cotton on a broach and dip in trichloracetic acid and insert to the bottom of the canal, cauterizing the ends of the nerve fibers. The canal is then ready for immediate filling. —A. EUBANKS, *Dental Headlight.*

Plaster of Paris and Paraffin Wax an Excellent Carving Material.—If you will take ordinary paraffin wax, melt it in a large spoon and stir plaster of paris into it while it is in a molten condition you will find that it will make one of the nicest carving materials that you have ever used. Make it plastic by heating, apply it to the primary crown and allow the patient to bite into it, and you have the cast.—J. Q. BYRAM, *Dental Register.*

To Replace Tooth on Vulcanite Plate.—When a plain tooth is to be replaced on a rubber plate, cut out a dovetail in the rubber, back of the place where the tooth is to go. Paint the back of the tooth and the space in the rubber with rubber cement. This is made by dissolving red rubber in chloroform. Place the tooth in position and pack the space with a piece of new rubber, using a warm spatula. Invest and vulcanize. Two or three plates could be invested in one flask, if necessary, as the flask does not have to be separated.—H. T. HARVEY, *Western Dental Journal.*

Obtunding Sensitive Dentin.—Moisten the cavity freely and place in it a bit of solid sodium dioxid, allowing a drop of water to fall upon it. A brief moment of pain follows, after which the excavation may be proceeded with almost painlessly. For deeper work a second application may be necessary; usually with no pain at all.—E. M. SOULE, *Items of Interest.*

To Obtain a Roughened Surface for Porcelain Inlays.—For obtaining the roughened surface of porcelain inlays, coat the floor of the matrix with a thin layer of abestos powder.—M. D. LITTIG, *Dental Summary.*

To Save Time when Re-Striking up a Plate.—Sometimes it happens that a metal plate is returned to you by the patient badly bent, or perhaps after the bands have been soldered on, the "strike" does not seem perfect. Now instead of removing them, place a little moldine around those teeth (on the zinc die), which the bands fit previously to casting the lead, and you will be able to strike the plate accurately into position without the lead interfering with the bands at all.—A. O. C., *Elliott's Quarterly.*

Porous Plates.—In vulcanizing a case place the flask above the water-line, supporting it on an old flask or anything suitable.

Use very little water, and you will not be troubled with porous plates.—A. C. PETERSON, *Dental Record.*

Successful Business Methods.—To make your business a successful one be systematic in everything you do—in your bookkeeping, in your records of services rendered; in fact, everything that pertains to your daily routine of work. Do not do things in a slipshod manner. Be punctual. If you have certain hours for business—and you should have—be there; not fifteen minutes later, but exactly upon the dot. Make your appointments and be on hand to keep them.

Be a man alive to the best interests of the community in which you live. Be bright and cheery, greeting everybody with a pleasant smile. These, together with hard work and perseverance, will make your profession a most successful one and of which you may well feel proud.—S. A. HELCK, *Grayville, Ind.*

Hardening Plaster Models.—Plaster models may be hardened and given a marble-like surface by boiling them in stearin, using a double boiler like a glue-pot for melting the stearin. The models must be perfectly dry before putting them into the boiling stearin.—*Dental Register.*

Sensitiveness at the End of Root-Canals.—Pump the canal full of eucalyptol and proceed cautiously to the end. I have often found this effective in cases of sensitiveness following extirpation under pressure anesthesia, but it is more effective in cleansing roots after arsenical applications.—R. E. SPARKS, *Dental Cosmos.*

EDITORIAL.

Appreciation.

IT is only just that the JOURNAL should make some acknowledgment of the many favors received during the past year, not only from the other University publications, but from many of the students of the Department as well. This support and co-operation has been of great value, and has been largely instrumental in bringing the JOURNAL to the close of another successful year.

We therefore take pleasure in extending our hearty thanks to all those who have assisted the JOURNAL work in any way, and trust that the spirit of good-will now existing will never be lost.

Our Debt.

EVERY student of the Department of Dentistry, or of any Department of the University for that matter, owes a debt far beyond calculation in mere dollars and cents. We all realize this, from the Freshman to the Senior, our appreciation increasing as we near the end of the course, but we never know the full extent of our indebtedness until we go out into practice and come to understand from practical experience what our Alma Mater has done for us.

It has taken years of careful study and hard work on the part of our instructors to find out the best methods for us to adopt, and to get at the scientific basis of fact on which our professional knowledge is now founded. They have spent the best part of their lives in learning these things, which we may gain with comparative ease by attending their lectures and demonstrations.

If any man feels that he has had a hard fight for his professional education, let him reflect upon the difficulties these men have overcome. They discovered, and we profit by their discoveries. Without exertion or thought on our part, we are put into possession of the latest, best, and most scientific ideas of modern dentistry. To be sure, we do a considerable amount of work, practical and technic, but we are under the most careful supervision, and with ordinary ability and common sense we must succeed. This is vastly different from being obliged to originate ideas and methods for ourselves.

There is, however, a way of paying our debt to some extent. By conscientious effort we can make reputations for good, honest work; work which will be a credit to us, and which will make us worthy pupils of our instructors.

When we have reached that stage of professional development which brings us to regard dentistry as something more than a mere technical training, more than the jeweler's art; when we look upon our calling as a scientific problem and practice dentistry with this idea in mind, then we shall have canceled our indebtedness.

DENTAL SOCIETIES.

James Truman Dental Society.

REGULAR meeting of James Truman Dental Society, held March 15, 1906. Mr. Henson read a paper on "Necrosis," discussed by Ozaki and Adams. Mr. Burke read a paper on "Stains of the Teeth," discussed by Wesbecher and Burdick. Mr. Mallon's paper treated of "Dentifrices," discussed by Kennedy and Millet. Mr. Brosnan read a paper on "Stomatitis," discussed by Pulver and Portens. Committee appointed for diplomas, Pulver and Kennedy.

March 29, 1906.—Dr. Turner gave a very interesting talk on "The Uses of Electricity in Dentistry." A rising vote of thanks was given Dr. Turner. Report of picture and entertainment committees. Mr. Wagner read a paper on "How to Conduct a Dental Practice."

April 26th.—Officers for the ensuing year were nominated. Election to be held at next meeting. Motion made and seconded that last meeting of year be held May 3d in form of a smoker. Carried.

May 3d.—Election of officers: President Burdick, vice-President Freeman, Secretary Burt, Treasurer Nuffort. Dr. Truman was present and gave a very interesting talk on the "Advancement of the Society." The society showed their thanks to the speaker by rising and giving three long hurrahs for Truman. The meeting was then adjourned and followed by a smoker, this being the last meeting of a very successful year from a literary, social and financial standpoint.

Edward C. Kirk Dental Society.

HOUSTON HALL, March 22d.

MEETING opened in due form. Mr. Salsbury read a paper on "Necrosis." The paper was discussed by Mr. Feldman. Dr. Lane was the guest of the evening and entertained the society with a talk on "Orthodontia." A vote of thanks was tendered Dr. Lane by the society.

HOUSTON HALL, April 5, 1906.

Dr. Turner was the guest of the evening, and gave a very interesting talk on "Dental Jurisprudence." A hearty vote of thanks was given Dr. Turner for his interesting talk. Mr. Spicer read a paper on "Inlays." The paper was discussed by Mr. Kreidel.

May 3d.

May 3d.—Dr. Kirk made his annual visit and answered numerous questions put to him by the members of the society. It is needless to say that the society appreciated his kindness in consenting to give us a talk. A vote of thanks was extended Dr. Kirk. Nominations for officers were made at this meeting.

Edwin T. Darby Dental Society.

SINCE the last issue of the JOURNAL the meetings of the society have been held as usual on the first and third Mondays of each month. Interest has been marked, papers numerous and above the average. A pleasing feature of the meetings has been the discussions following the reading of the papers. The society extended an invitation to the French Society of Dental Students to attend the meetings, and was highly honored by its acceptance by M. Villain, president of the society. His remarks on the condition of dentistry in France were instructive and greatly appreciated. The society wishes to take this means of expressing their gratitude to the gentlemen who have kindly addressed the society during the past year.

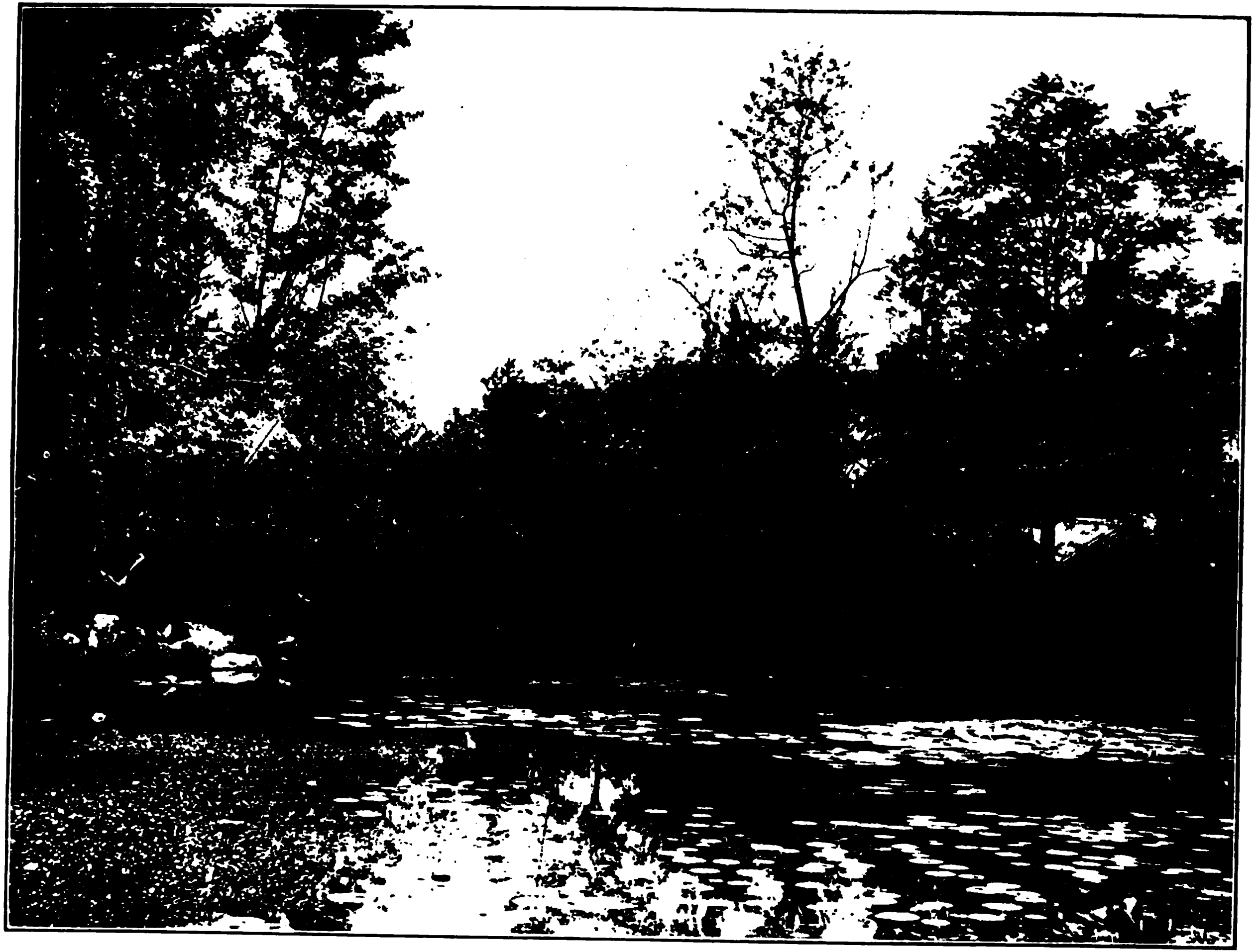
French Society.

THE Amicale Française de l'University of Pennsylvania held a meeting April 10th, at which Dr. Endelman gave a very interesting talk on the history of the University. After a vote of thanks to the speaker, Georges Villain read a paper on "Orthodontia."

Acting on a proposition of the president, it was decided that a meeting should be held every Tuesday at 8 P.M.

At the next meeting, April 17th, Georges Villain read a paper on "The Treatment of the Different Classes of Orthodontia," the discussion being particularly lively on the advisability of extraction in treatment.

On April 24th a paper was read by M. Descoffre on "Pyorrhea Alveolaris," which was very interesting and received much praise.



THE POND AND THE BOTANICAL GARDENS

On May 1st M. Cauheppé read a paper on "Alveolar Abscess and Treatment," which was followed by a general discussion.

At the last meeting M. Viau read a paper on "Transplantation, Implantation, and Replantation of Teeth," and M. Goyheneix was congratulated upon his careful study on "Bleaching of Teeth," upon which he read a paper. The society made a contribution to the festival organized in honor of Dr. Godon, president of the École Dentaire de Paris, the first founded in France, in 1881. A cablegram was sent to him April 1st, the day the banquet in his honor took place in Paris.

THE DEPARTMENT.

Psi Omega Banquet.

THE annual banquet of the Psi Omega Fraternity was held at the Bellevue Stratford, Tuesday, April 10th. Dr. J. E. Dunwoody, acting toastmaster. Toasts: "The Profession," Dr. James Truman; "Psi Omega," Dr. J. E. Nyce; "Active Members," Dr. M. H. Cryer; "Reply," Seniors, M. A. Holland; Juniors, H. F. Lombard; Freshman, Edw. Rehrig; "Our Alumni and Honorary Members," Dr. J. G. Lane; "Reply," Dr. Allen. The banquet was a very pleasant affair, and needless to say, was enjoyed by all.

Xi Psi Phi Banquet.

THE annual banquet of Pi Chapter of the Xi Psi Phi Fraternity was held at the Colonnade Hotel, April 26, 1906.

Henry D. Freeman was toastmaster, and toasts were responded to by Drs. Roberts and Sausser, of the Department, and by Messrs. Burke, Stevens, Pulver, Simpson, McCormick, Wight, and Godfrey.

Altogether it was one of the most enjoyable banquets in the history of the Chapter.

Delta Sigma Delta Banquet.

DELTA SIGMA DELTA held its annual banquet at the Hotel Flanders on the evening of April 26th. The members report a ripping time. Dr. Charles R. Turner was toastmaster. Dr. Kirk and Dr.

Peeso were on the toast-list. Dr. Swing also made a few remarks. Among the undergraduate members who responded to toasts were: Wied, Stevenson, Nettleton, and James, '06, and McPherson, '07.

Alumni Notes.

Dr. Ira B. Stilson, '96, visited the Department recently.

Dr. Philip H. Seible, '94, suffered a great loss through the fire at San Francisco, Cal. The Department extends sympathy to Dr. Seible.

Dr. Hawbly S. Orchard, '05, was married on April 11, 1906, to Miss Cornelia Louise Bacon, of Utica, N. Y.

Dr. Oscar Homburger, '05, was married March 15, 1906, to Miss Florence Tabor, of Camden, N. J. Dr. Homburger is now located at "The Corrington," Thirty-seventh and Chestnut streets, Philadelphia.

Dr. William G. Cook, '05, is now located 512 Pittsburg Life Building, Pittsburg, Pa.

Dr. Charles F. Liebrecht, '02, was married to Edyth Matilda Cunningham, Thursday, April 5, 1906, at Montreal, Canada. Dr. Liebrecht is now located 48 West Eighty-third street, New York.

Dr. Edward S. Stevenson, '05, and wife will sail for home this month, Auckland, New Zealand.

THE UNIVERSITY.

The Dean's Bible Class.

EARLY in this college year the Vice-Provost suggested that in each department of the University a Bible class of optional membership be formed, and one hour per week be devoted to reading and discussing the subject.

The class in our Department has taken up more particularly the writings of the New Testament pertaining to Christ's personality and teachings from an ethical and historical point of view, and comparing the manners and customs of the people at that period with those at our present time. These and other points have been discussed with much interest in a way which would not conflict with one's sectarian views. Regarded in this light, it seems as if much more is developed out of the material discussed, and one's mind broadened and elevated to a much greater extent.

The informal gatherings have been presided over by our Dean, who deals with the subjects in a most interesting and satisfactory manner. At these gatherings there are represented nearly as many nationalities as there are found in the Department. Considerable interest has been made manifest by those attending, and it is evident a much larger number would attend, provided work hours did not conflict. There is a bright prospect for a large number next year.

The Franklin Celebration.

THE opening exercises of the celebration of the bi-centenary of the birth of the founder of the American Philosophical Society of the University of Pennsylvania were held in Witherspoon Hall on April 17, 1906.

Greetings were extended by the president, Dr. Edgar F. Smith, Vice-Provost of the University of Pennsylvania, and representatives of various learned bodies from all parts of the world presented addresses. Andrew Carnegie, as Lord Rector of St. Andrew's University, Scotland, conferred the degree of Doctor of Laws upon Miss Agnes Irwin, great-granddaughter of B. Franklin. Dr. Edgar F. Smith delivered the historical address of the occasion. He gave various interesting details of the history of the American Philosophical Society, pointing out its relations to former organized boards of learned men, and telling how in 1769 Franklin was elected president.

Provost Harrison spoke for the Trustees of the University of Pennsylvania, expressing their cordial congratulations and good-will upon the observance of the 200th anniversary of the birth of their co-founder, B. Franklin, who for forty-one years was trustee of the University, and to extend their good wishes to the American Philosophical Society.

On Thursday, April 19th, the American Philosophical Society and its guests joined with the University of Pennsylvania in exercises at the Academy of Music.

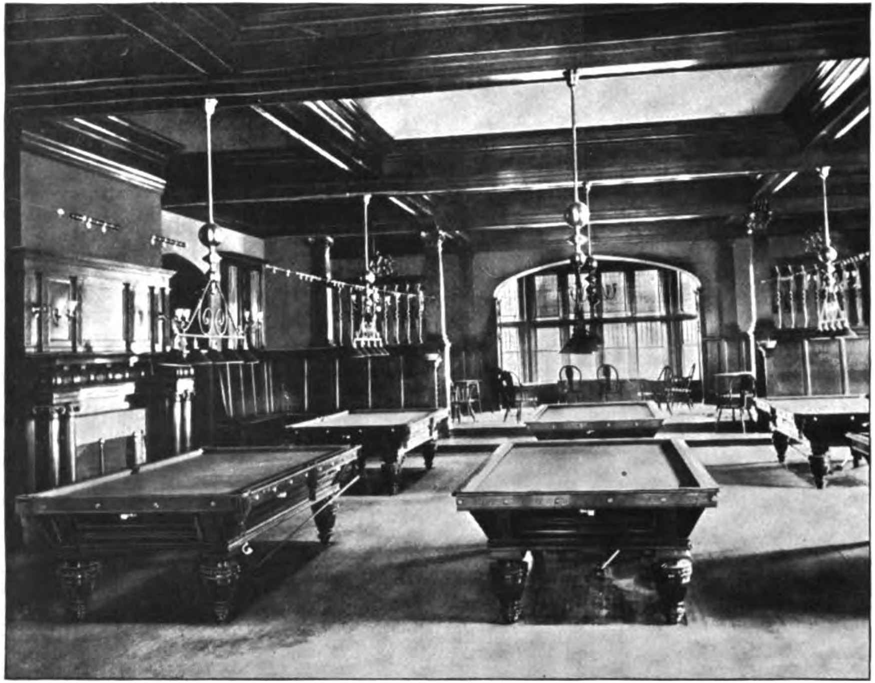
Between 3 and 4 P.M. the delegates assembled at Independence Hall and a parade was formed at City Hall, consisting of the First Troop, Philadelphia Cavalry; a detachment of the U. S. Marine Corps; a detachment of sailors of U. S. Navy; the First

Regiment Infantry, N. G. P., and Veteran Corps of that regiment; a provisional battalion of U. S. Postmen; the Veteran Firemen's Association, and a deputation of the Grand Lodge of the Free and Accepted Masons of Pennsylvania.

Proceeding to the grave of Franklin, an oration was delivered by Grand Master Geo. W. Kendrick, Jr., and addresses were made by noted speakers. A reception was held at the Bellevue-Stratford in the evening.

A memorial tablet to Franklin, which will occupy two panels at Houston Hall, at the head of the last staircase, was presented to University of Pennsylvania by Mr. Alden R. Ludlow in behalf of the class and Vice-Provost Smith. Degrees were then conferred upon Edward VII, King of England; The Hon. Andrew Carnegie, Lord Rector of St. Andrew's University; Sir George Howard Darwin, Plumian Professor of Astronomy and Experimental Philosophy at the University of Cambridge, England; Dr. Edgar F. Smith, President of the American Philosophical Society; Samuel Dickson, Esq., Chancellor of the Law Association of Philadelphia; Guglielmo Marconi, investigator and inventor; Ernest Rutherford, Professor of Physics at McGill University, Montreal; William Keith Brooks, Professor of Zoölogy at the Johns Hopkins University; William P. Henszey, theoretical and practical engineer of the Baldwin Locomotive Works; John William Mallet, chief chemist of the University of Virginia; James Gayley, Esq., of New York City, metallurgist, noted for his original work in analytical chemistry; William B. Scott, Professor of Geology and Palæontology at Princeton University; Hugo de Vries, Professor of Botany at the University of Amsterdam; Albert A. Michelson, Head Professor of Physics at the University of Chicago; Dr. William Paterson Paterson, Professor of Divinity at Edinburgh University; Hampton L. Carson, Attorney-General of the State of Pennsylvania and orator of the day; Edward Charles Pickering, Professor of Astronomy and Director of the Harvard College Observatory; Edward Leamington Nichols, Professor of Physics at Cornell University; Alois Brandl, of the Royal Academy of Sciences, Berlin; H. A. Lorentz, most distinguished of physicists of Holland, after which Hon. Hampton L. Carson spoke on the life and history of Benjamin Franklin, which closed the session.

This celebration will go down in history as the greatest assemblage of learned men in the history of any University.



HOUSTON HALL—BILLIARD ROOM

Dr. Kirk's Receptions.

Dr. Kirk, as usual, entertained the members of the Senior Class at different times during the past few months. They went out in parties of twenty, or thereabouts, to his delightful little home in Lansdowne, and were right royally entertained.

He received them cordially, fed them bountifully, told some good stories, and showed them his library and workshop—then sent them away happy and well content. It is a happy thought, this idea of Dr. Kirk's, and one which the Seniors do not fail to appreciate, as it gives them the opportunity to study this rather remarkable man at close range—to see a happy man in a happy home. It gives them something to emulate—something to strive for.

It is to be hoped that this delightful custom will be continued, and that next year's Seniors may receive the same pleasure and helpfulness at the hands of Dr. Kirk.

Dr. Rhein's Lectures.

In the latter part of April Dr. Rhein of New York gave two very interesting lectures on pyorrhea alveolaris to the Seniors of the Department. In the first he gave the etiology of the disease, clearly showing how it is primarily a filth disease, and how gout and rheumatism are only secondary causes. We learn that pyorrhea or, better termed, phagedenic pericementitis, is brought about by a lessened vital resistance of tissue, the pericementum and periosteum, and the invasion of pyogenic organism in these tissues. No specific bacterium has been definitely pointed out as responsible. Salivary calculus may be a factor in lessened resistance of tissue, as may be irritation of malocclusion or general anaemic condition, but bacterial infection is of primary importance.

After speaking of various methods of treatment in vogue, Dr. Rhein explained his method in detail. He laid especial stress on the thorough removal of every particle of calculus and the antiseptic treatment to be carried out. As regards removing calculus, a lower third molar, left for example, is cleansed of calculus, even to the minutest particle, by whatever instrument the operator is accustomed to. Next, the second molar lower is attacked, and so on, until eventually all the teeth of one jaw are finished. The other jaw is then treated in a like manner. The pockets are then to be sterilized and treated with a sedative and antiseptic. Amputation of root may be indicated. In such event, what Dr. Rhein calls "heteropathy," or replacement of lost root by a porcelain one, should be performed. Moreover, when there is extreme looseness of the teeth, he showed how an iridio-platinum wire fastened to lingual aspect of anterior teeth is a most efficient means of retaining rigidity.

His second lecture showed numerous conditions of the disease as brought out by the X ray.

Dual Meet with Columbia.

As a result of the dual tract meet between Penn and Columbia, the points were 102 for Penn, 15 for Columbia.

The dental world will be pleased to learn that Guy Hoskins, '06 Dent., won his letter in this meet.

Crew Wins from Annapolis.

It was not until Coach Ward exhibited at Annapolis a crew of physical excellence, which rowed in fine form, that anyone knew what he had. The water at Annapolis was smooth or fairly so, a strong breeze blew across the river, but the course was sheltered by the hulls.

The 'Varsity won by three lengths in 10.25. In 1904 the time was 10.37⅜. In 1902 the time was 10.31½. In 1903 Penn's boat was swamped and the race postponed, and in 1905 Penn was almost swamped and lost. The winning time last year was 12 minutes 12¾ seconds. The Freshman crew lost to Annapolis second, 10.45 to 10.54.

Pennsylvania's crews were:

'Varsity—Bogardus, bow; (2) Doering, (3) Dean, (4) Shoemaker, (5) Kelley, (6) Drayton, (7) Herman; Emig, stroke; Mills, coxswain.

Freshman—Shellins, bow; Rogers, Breitinger, Scott, Hulin, De Bow, Walton, Ballard, stroke; Barrett, coxswain.

Dewhurst Wins at Tennis.

At the opening of the new tennis courts of the University at Thirty-fourth and Chestnut Streets on Friday afternoon, April 27th, there was an exhibition match between E. B. Dewhurst, the intercollegiate champion, and J. R. Carpenter, Jr., of the Germantown Cricket Club, which Dewhurst won, 6-4, 4-6, and 7-5. The Pennsylvania students elected a committee of five to care for the courts, consisting of the following: J. H. Feigel, P. Sturtevant, L. T. Emory, P. Freeman, and E. B. Dewhurst.

Soccer Team Defeats Harvard.

On April 14th, the Pennsylvania Association football team defeated the Harvard team on Soldiers' Field by a score of three goals to one. In the first half the visitors made two goals and kept the ball in the Crimson territory most of the time. Occasionally Captain Squires' men would rally and carry the ball down the field, aided by a strong wind, but Penn was able to get the ball through the goal posts once more, while Fales, with a comparatively clear field, footed a good goal in the latter part of the half. Morris also got one for the Red and Blue.

Baseball.

Pennsylvania has had the hard luck to drop three games in succession: Princeton, 5; Penn, 0. Amherst, 11; Penn, 8. Harvard, 4; Penn, 1.

Penn fights well. In comparison with other teams is weak in batting, but in this is much better than last year.

Football Schedule Arranged with One Open Date.

Pennsylvania invites close examination of her code of eligibility and its enforcement, and has knowledge of her own integrity both of purpose and action. A specific complaint would receive attention not justified by a general accusation, which is not likely to deceive the collegiate world. The University welcomes Michigan warmly to Franklin Field, and trusts that she will find Philadelphia hospitality much to her liking. The schedule:

September 30—Lehigh at Philadelphia.
October 3—Gettysburg at Philadelphia.
October 6—North Carolina at Philadelphia.
October 10—Franklin and Marshall at Philadelphia.
October 13—Swarthmore at Philadelphia.

October 17—Ursinus at Philadelphia.
October 20—Brown at Philadelphia.
October 27—Indians at Philadelphia.
November 3—Lafayette at Philadelphia.
November 10—Open.
November 17—Michigan at Philadelphia.
November 24—Villa Nova at Philadelphia.
November 28—Cornell at Philadelphia.

The May Day Sports.

THE University of Pennsylvania Sophomores won the annual May Day sports from the Freshmen by scoring 5 points to 2 on Franklin Field before a crowd of over 4000 persons. The Sophomores won the three wrestling bouts and the middle and heavy-weight boxing contests, while the Freshmen captured the tug-of-war and light-weight boxing.

After the bouts the University students held a nightshirt parade around a bonfire on the old Athletic Field in commemoration of Admiral Dewey's victory at Manila.

The Annual Relays.

THE annual relay races attracted a crowd of about 12,000 people to Franklin Field Saturday afternoon, April 28, 1906. The day was an ideal one for track and field, and the races were well contested, many of the finishes being exciting. One record was broken. Michigan won the four-mile race in the remarkably fast time of 18.10⅖. The same team last year, with the exception of Stone, whose place was taken by Maloney, made the record of 18.25⅗. Penn's time was 18.24⅖. Also under the old record.

The summary of relays:

Event No. 22—Won by Washington and Jefferson; second, Westminster. Time, 3.41⅖.

Event No. 23—Won by Lafayette; second, Virginia. Time, 3.28⅘.

Event No. 24—Won by Swarthmore; second, Johns Hopkins. Time, 3.31⅖.

Event No. 25—Won by Dartmouth; second, Columbia; third, Pennsylvania. Time, 8.03⅗ (record, 7.54⅘).

Event No. 30—One-mile championship (world's American and Intercollegiate record, 3.21⅖, held by New York Athletic Club). First relay, won by R. S. Young, Syracuse; second, C. Whitman, Pennsylvania; third, L. Taylor, Chicago. Time, 51⅖ seconds. Second relay, won by M. Cox, Syracuse; second, W. Haydock, Pennsylvania; third, R. Barker, Chicago. Time, 1.43⅖. Third relay, won by N. Cartmell, Pennsylvania; second, M. Crary, Syracuse; third, H. Merriam, Chicago. Time, 2.33⅗. Fourth relay, won by E. Bonsack, Pennsylvania; second, K. B. Squires, Syracuse; third, L. Groman, Chicago. Time, 3.23⅕.

Event No. 31—Four-mile championship, won by Michigan, 18.10⅖; second, Pennsylvania, 18.24⅖; Yale, distanced.

Among other winners were: Prep. School championship, won by Mercersburg, 3.24⅘.

Event No. 29—High School championship, won by Wendell Phillips, Chicago. Time, 3.36⅗.

Event No. 5—Won by Media High School. Time, 3.50⅗.

Event No. 6—Won by Atlantic City. Time, 3.48⅕.

Event No. 7—Won by Phoenixville. Time, 3.43⅕.

The 120-yard hurdle race was won by Castleman, of Colgate; second, Armstrong, of Princeton. Time, 15⅘ (record, 15⅕).

The mile relays of the academies and preparatory schools gave the following winners in various events: Girard College, 3.49⅕; Pennsylvania Seminary, 3.47⅕; Chestnut Hill Academy, 3.47⅕; Wyoming Seminary, 3.44⅘; Centenary Institute, 3.39⅕; Conway Hall, 3.42⅖; Brown Prep., 3.38⅖; Germantown Academy, 3.37.

The 100-yards run resulted in a dead heat between Dear, of Pennsylvania, and Castleman, of Colgate. Time, 10⅖. Dear declined to run off and the race was awarded to Castleman. (American and Intercollegiate record, 9⅘.)

Among the college relays, event No. 20 was won by New York Law School; second, Medico-Chi. Time, 3.52⅕. Event No. 21, won by Western Maryland; second, St. John's Annapolis. Time, 3.35⅕.

Pole vault—Swain, of Pennsylvania, and Phillips, of Cornell, tied at 11 ft. 8 in. Swain won the toss. (Record 12 ft. 1.32 in.)

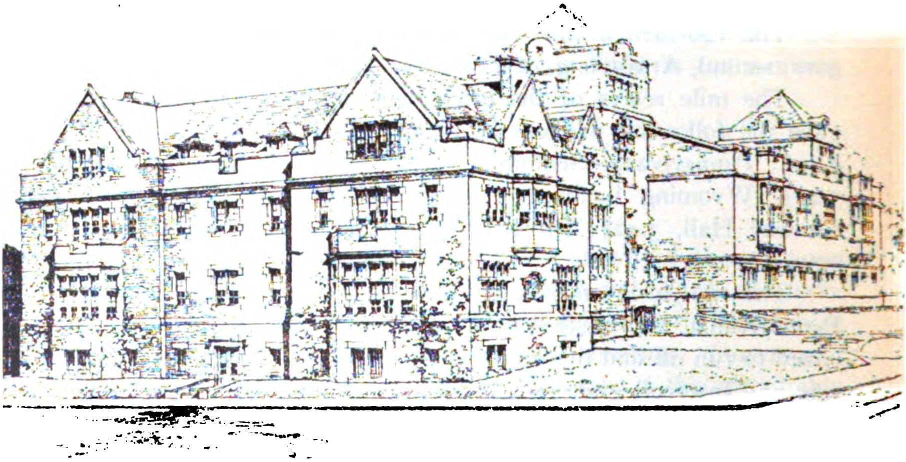
Running high-jump—Won by N. Patterson, ex-Michigan; second, F. F. Risley, ex-Pennsylvania, 5 ft. 10 in. (Record 6 ft. 5⅝ in.)

Running broad-jump—Won by Mt. Pleasant, of Carlisle Indian School, 22 ft. 8 in.

The Athletic Association at its regular meeting on Tuesday, May 1st, awarded their "University P" to Thomas O. Haydock and Edward R. Bonsack, of the victorious one-mile relay team. Cartnell and Wilthour won theirs last year.

The New Training House.

THE new training house which is now being constructed on Franklin Field will supply one great need which University athletes have felt for many years. It will not only tend to improve the general health of undergraduates, but will economize their time and make it possible for those in charge to supervise the hours of study of athletes. Penn's athletes have done wonderful things in the past, but with such additional equipment they should do even more wonderful things, and Old Penn believes, with Dr. White, that the new training quarters will help the University to have better teams and better students on its teams.



There is not an alumnus who is not anxious to see this accomplished; there should be none who is not willing to assist the committee in bringing it about. The sum of $12,750 is still needed to complete the new training house and furnish it, and the committee hopes that the alumni will respond liberally and quickly to the appeal which it is now making to raise this sum. It is proposed to place in the training house a tablet bearing the following inscription:

"This tablet has been placed here in commemoration of the services of

THE HEAD COACH
AND THE
BOARD OF COACHES,
AND OF THE
ACHIEVEMENTS

of the Football Teams of 1904 and 1905, by the following subscribers toward the erection of this Training House and Dormitory."

This tablet ought to be fifty feet high and a mile wide. The name of every alumnus should appear on it.

The Veiled Guest.

At old Egyptian festals we are told
Was aye a guest,
Who through the feast sat rigid, silent, cold;
Whom no one prest
To share the banquet, yet who still remained
Till the last song was sung, the last cup drained.

The cup, the song, the jest and laugh went round,
No cheek turned pale.
No guest amazed did query e'er propound
Or lift the veil;
To learn the wherefore one alone sat mute
With whom no host nor friend exchanged salute.

Custom and rose-crowned drapery did all:
That thing of bone,
That hideous skeleton in festive-hall
Evoked no groan,
Nor thrill of horror checked the flow of mirth,
Unseen, unfelt, that grisly type of earth.

But did the host return when all were gone,
The lights put out,
The unseen presence of that nameless one
Might put rout
All the gay fancies born of wine and song
And speechless dread, the fleeting night prolong.

At every hearth, in every human heart
Sits such a guest.
We may not, cannot, bid it thence depart;
Even at the best
We can but crown with roses, veil and drape:
The thing exists, tho' we conceal its shape.

We shroud our skeletons from public gaze
And from our own;
We ignore their presence with life's lamp ablaze
Till left alone
With festal fragments, wine-stains, light gone dim,
We feel them with us—icy, bloodless, grim.

Our nerves would quiver to unveil the bones
Of the dead past;
We lock them in our hearts, with sighs and moans,
To keep them fast.
'Tis but in solitude we turn the key
And dare to look upon them as they be.

T. Gustin Aller, Jr., '06.

OUTFITTERS TO STUDENTS and DENTISTS.

You will want, soon perhaps, a complete Office Outfit, or at least some part of one.

It is our business to supply every professional want; and we take pride in the fact that we have established exceptional facilities for doing this.

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Wm. McLaughlin, Manager,
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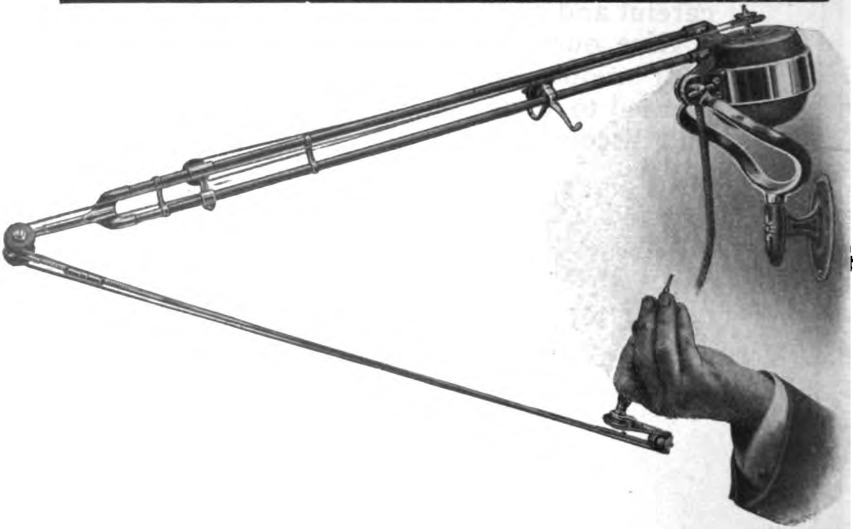


Send for catalogue or call at our factory and examine these goods
ELECTRO DENTAL MANUFACTURING COMPANY
1228 Cherry St., Philadelphia, Pa., U. S. A.

For Soldering a Bridge or Plate

Arrange the *No. 5-L Soldering and Ladle Furnace* as in Fig. 1 and use in connection with a good blowpipe (B. D. M. Co.'s No. 6F, of course).

PRICE

$5.00

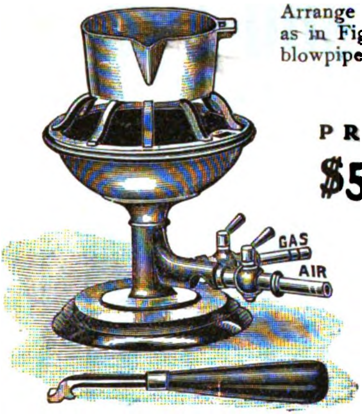


FIG. 2

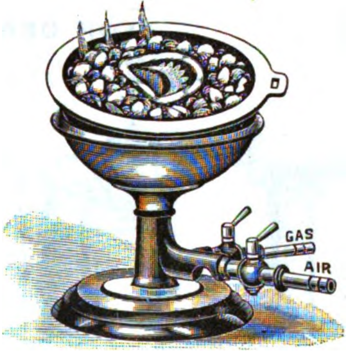


FIG. 1

TO MELT METALS for dies, arrange as a Ladle Furnace (See Fig. 2). Melts lead or zinc in a surprisingly short time.

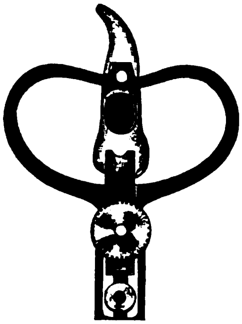
Catalogue "D" describes it fully

BUFFALO DENTAL MFG. CO.

BUFFALO, NEW YORK

Cervical Clamp No. 25 A.

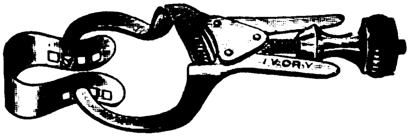
PATENT APPLIED FOR



This Clamp is designed for superior incisors and is readily manipulated.

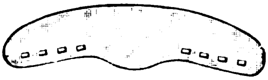
Ivory's Matrix Retainer No. 5

PATENT APPLIED FOR



Price, with One Dozen Bands,	$2.00
Bands, per dozen,	25 cts.
Contoured Bands, per dozen,	10 cts. extra

NARROW BAND



WIDE BAND

"ALL DEALERS"

Manufactured by J. W. IVORY

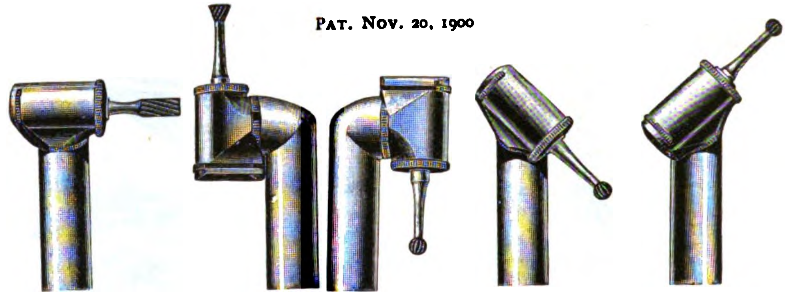
51 N. 10th STREET, PHILADELPHIA, PA.

E. E. SMITH'S

Octangular Hand-Piece

FOR DENTAL ENGINES

PAT. NOV. 20, 1900



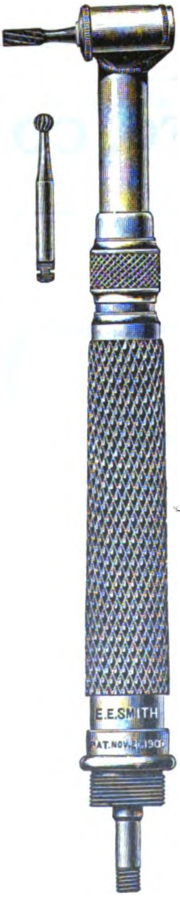


Fig. 1.—For Slip Joint Connection.

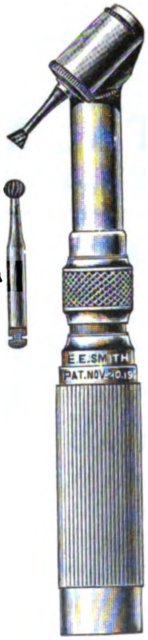


Fig. 2.—For Universal or Cone Journal Hand-piece.

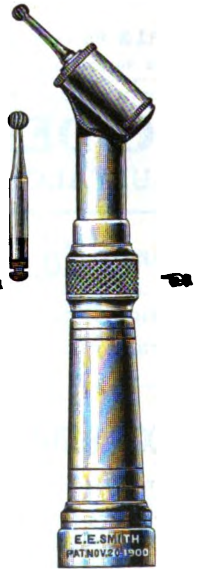


Fig. 3.—For Doriot Hand-piece.

This is the outcome of over 20 years' experience in the manufacture of Dental Instruments, and was originally perfected after months of diligent effort on the part of a skilled mechanic.

The adbantage in the use of this improved Angular Hand-piece is to enable the operator to drill any cavity quickly and with ease. It turns completely around, ***locking automatically at eight different angles.*** It is made of the best material, strong, durable, and finely finished; has won its way to popular favor, and is indispensable to those who have once used it. It is now in use by many leading members of the profession, who speak highly of its merits. Try it and you will be another to testify to its value.

TO SWIVEL HEAD, PULL DOWN RING AS INDICATED BY ☛

Price, $10.00. Made to fit any Hand-piece

E. E. SMITH
MANUFACTURER
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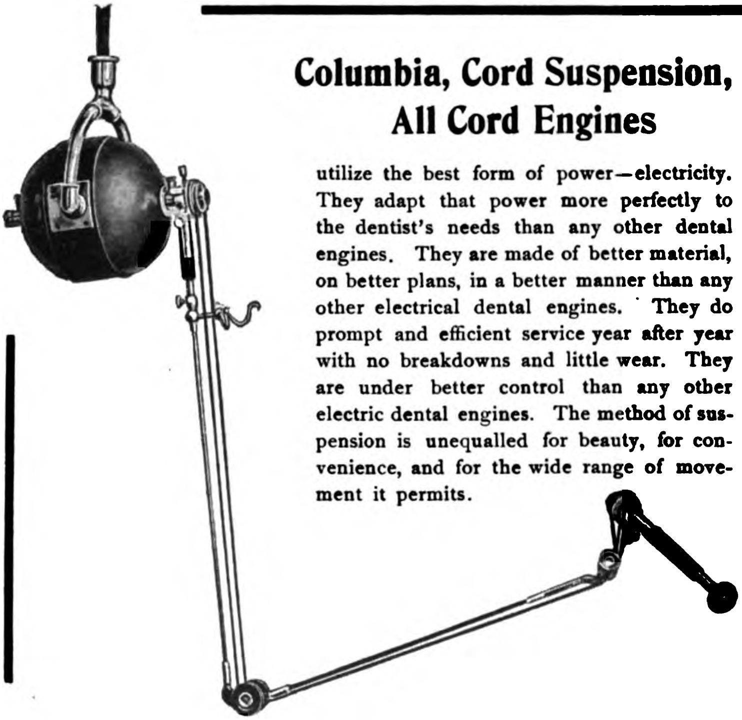
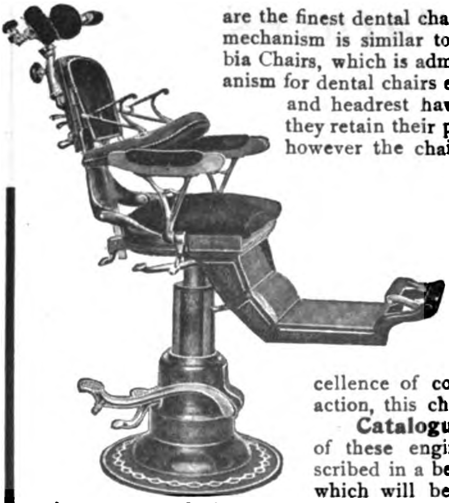


Columbia, Cord Suspension, All Cord Engines

utilize the best form of power—electricity. They adapt that power more perfectly to the dentist's needs than any other dental engines. They are made of better material, on better plans, in a better manner than any other electrical dental engines. They do prompt and efficient service year after year with no breakdowns and little wear. They are under better control than any other electric dental engines. The method of suspension is unequalled for beauty, for convenience, and for the wide range of movement it permits.

Imperial Columbia Dental Chairs



are the finest dental chairs ever produced. The lifting mechanism is similar to that used on Favorite Columbia Chairs, which is admittedly the finest lifting mechanism for dental chairs ever devised. When the back and headrest have been adjusted for a patient, they retain their proper relations to that patient, however the chair back may be raised or lowered. This is a new feature of great value and convenience and permits easy and simple manipulation of the chair in case of need. The upholstered back is in two parts and forms, when opened, a handsome and convenient child's chair. For beauty of design, excellence of construction and smoothness of action, this chair is unequalled.

Catalogue. The many excellencies of these engines and chairs are fully described in a beautifully illustrated catalogue, which will be furnished, free, on application to your dealer, or to us. Columbia Equipment can be bought on easy terms of all dealers.

THE RITTER DENTAL MFG. CO.,
ROCHESTER, N. Y. C 838

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MERIT AGAINST THE FIELD

A DENTIST who has labored long and arduously and at great expense building up a practice is naturally jealous of it and might well be expected to hesitate a long time before recommending anything that might tend to revert against him at some future time. He will look well into the history of a preparation before recommending it. Merit naturally would be his guide and, too, merit that has been proved beyond a shadow of doubt, and there is just where we have staked our reputation for over sixty years. ***Never has it been nor will it ever be our policy to enter into any schemes for buying up recommendations from those to whom the public look for an honest and unbiased expression of opinion.*** Our preparations have been backed up by our sweeping guarantee and have sold on their merits for over sixty years and never will be offered to the public on any other grounds.

NO DENTIST EVER RECOMMENDED SOZODONT EXCEPT FOR ITS UNDENIABLE WORTH.

We make big claims for our Sozodont Liquid, Powder and Paste, and will stand back of and prove conclusively that our claims are well founded. The Sozodont preparations possess the three characteristics which are generally conceded to be essential to a perfect dentifrice. Their ***ALKALINE REACTION***—a feature of prime importance from a dentist's standpoint—is pronounced though slight. Being alkaline in reaction it utterly precludes the idea of acidity.

SOZODONT IS NOT AND NEVER WAS AN ACID.

AS ASTRINGENTS their effect is mild but marked. ***AS ANTISEPTICS*** they are as nearly perfect as the effort of experienced chemists can attain. ***We wish every Dentist to be familiar with the Sozodont Preparations.***

Send for literature, Professor Hill's and Professor Norton's Analyses of Sozodont, "Sozodont in the Dental Office," specimen Appointment Cards and Prescription Pads and litmus paper for testing.

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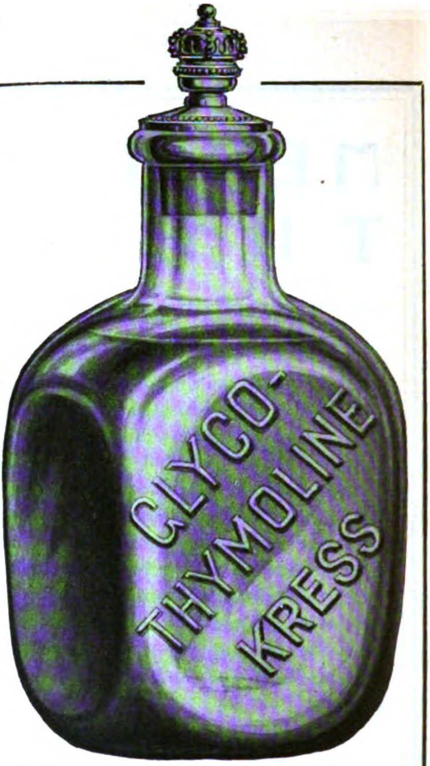
Established 1848 **NEW YORK CITY**



KEEP THE MOUTH
AS NATURE INTENDED IT SHOULD BE—

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RESTORES NORMAL CONDITIONS AND
MAINTAINS PERFECT

Oral Hygiene

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248 S. Eleventh St., PHILADELPHIA

MANUFACTURERS OF

Artificial Teeth *and* Dental Materials Generally

PHILLIPS'

MILK OF MAGNESIA

(MgH_2O_2.—FLUID.) "THE PERFECT ANTACID."

The only neutralizing agent known

that will maintain a continuous alkaline condition in the mouth.

The only reliable medicament

for inducing an alkaline reaction of the whole gastro-intestinal tract.

A BLAND, NON-IRRITATING, AGREEABLE, HARMLESS

ALKALINE ANTISEPTIC.

Rational therapeutics indicates its use in:

Erosion, Gingival Caries, the Tooth Caries of Pregnancy, and all oral pathological conditions due to hyperacidity of the mouth secretions, whether local or systemic in origin.

For Fermentative Dyspepsia

and the Colic of infants it is a specific.

USE PHILLIPS' MILK OF MAGNESIA

INSTEAD OF OTHER ALKALI.

Get the genuine (PHILLIPS') and caution your patients.

THE CHARLES H. PHILLIPS CHEMICAL CO.,

NEW YORK.

TO THE STUDENT.

Morgan, Hastings & Co.'s

Fine . . .
Gold Foils
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Cylinders

This is the Gold Foil which you have used throughout your college course. It necessarily follows that you will want to continue with the same Foil when you settle down to your life's work. Send your orders direct to us if you can't get it at your depot. Our productions are recognized as the purest and most reliable before the profession today, and, besides being intrinsically good, you will work with better results with the material to which you have been accustomed.

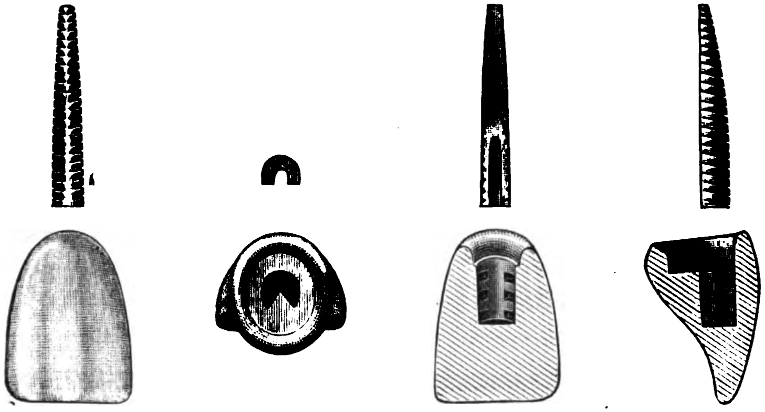
Morgan, Hastings & Co.,

819-21 FILBERT STREET,

PHILADELPHIA.

The Justi "Detachable Pin" Crown

PATENTED MARCH 6, 1900 D. R. G. M. 119,559



This crown is submitted to the Dental Profession with the utmost confidence that it will prove superior to all others.

It has all the admitted advantages of the detached pin crown without any of the objections.

RIGIDITY The shape, both of the cavity or recess in the Crown and of the base of the pin, cause the pin to be held rigidly; it can neither twist nor tilt.

STRENGTH The grooved undercuts in the Crown and the serrations on the pin make an absolute anchorage for the Cement; the pin therefore cannot pull out.

STABILITY The pin is a combination of platinum and silver, will not discolor the root, and will take the highest grade of solder. It is very much stiffer than platinum, is not brittle and can be bent to any desired angle without the slightest risk of cracking or breaking.

BEAUTY These crowns have the additional superiority of the Justi Porcelain and the Justi Shades, while the molds are worthy of our reputation, which means that they are unequalled.

The above advantages make the **Justi "Detachable Pin" Crown** the best porcelain Crown offered to the profession.

PRICES

	Retail	$25 lot	$50 lot	$100 lot
Each	.40	.37	.34	.31

100 Crowns, complete, in neat hardwood case, $35

Philadelphia H. D. Justi & Son Chicago

All U. of P. Fraternity Smokers

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THE PHILADELPHIA UNIVERSAL SEPARATOR

Superior To Them All

Will separate any teeth with least discomfort to patient.

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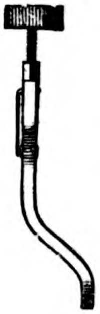
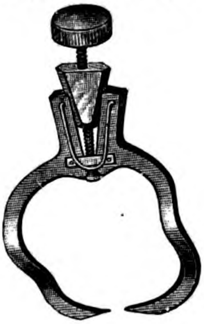
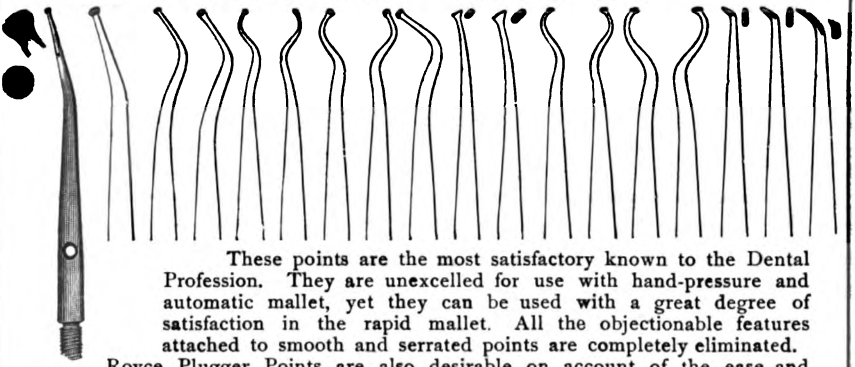


No. 1.
Exact size of separator.



No. 2.
Bend of bows.

ROYCE PLUGGERS REVISED SET.



These points are the most satisfactory known to the Dental Profession. They are unexcelled for use with hand-pressure and automatic mallet, yet they can be used with a great degree of satisfaction in the rapid mallet. All the objectionable features attached to smooth and serrated points are completely eliminated.

Royce Plugger Points are also desirable on account of the ease and perfection with which gold can be manipulated with them. They are shaped and serrated as to allow the utmost freedom of movement of the point in wiping in the gold, and the extension of the serrations over the sides of the heads facilitates their "clearing" without dragging. There are no corners or sharp edges to catch the gold or dent the filling, and they cannot burnish the surface of the gold, so that the next piece will not cohere.

Special price to Students

Nos. 1 to 9 inclusive, ...	$0.45 each.
Nos. 10 to 18 inclusive, ...	.65 "
Complete set, 18 instruments, ...	9.00 "

On receipt of price, we will send safely packed, prepaid to any address in the United States, Canada or Mexico.

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CROWN AND BRIDGE AND PORCELAIN INLAY WORK

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A permanent school for post-graduate work in REMOVABLE and fixed crown and bridge practice. A thorough training in the technic of preparation of supports and abutments, the most important part of this work is assured. The practical application of porcelain to crown and bridge work also forms a prominent feature of the course.

The porcelain inlay work is in charge of a skillful operator and experienced teacher, Dr. W. W. McKay.

Length of courses, six weeks.

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ROOT-DRIER

Invented by **Dr. George Evans**

Patented October 2, 1888; February 3, 1891

This device utilizes the great heat-conducting property of silver to the simplification of one of the difficult problems in operative dentistry.

The appliance is made in three parts: the tapered silver probe, the oval copper bulb, and the octagon steel handle, which are put together in a moment for use, and as quickly taken apart for cleansing.

The tapering probe is passed through the bulb from the rear, and the steel handle is screwed in behind, locking it firmly.

The oval mass of copper (B) is heated to a dull red, the heat passing rapidly along the silver probe (C), which is inserted as far up the canal as possible, evaporating the moisture and gases and carbonizing any organic material in the canal and tubuli. The shank (A) is for use with Cone-Socket Handle.

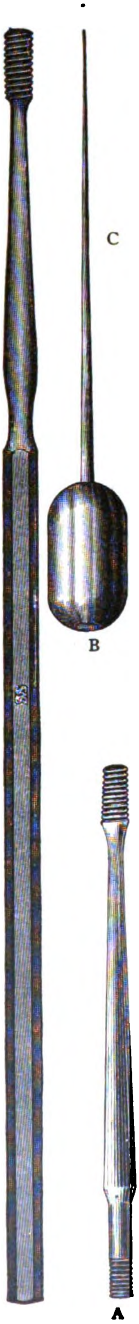
The simplicity and effectiveness of the Evans Root-Drier have been long known and appreciated by a wide circle of users.

PRICES

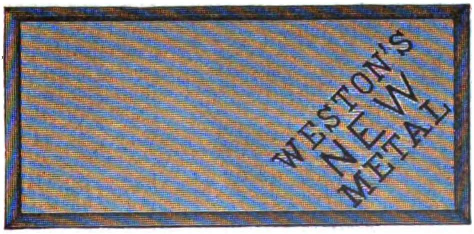
Complete, Silver Probe, Copper Bulb, and Steel Handle		$1.75

PARTS SEPARATELY

Steel Handles	each	$0.45
Cone-Socket Handle Attachment (see A)		.35
Copper Bulbs	each	.45
Silver Points	"	.85



WESTON'S NEW METAL



As to Making Lower Plates Have you trouble with lower dentures? Try Weston's New Metal and leave those to wrestle with the trouble who don't use this best of bases for the purpose.

It has the weight, it holds its place.
It is easily cast, has perfect adaptation.
It has the fit,—neither warps, springs, nor changes its form.
It is clean, tasteless, harmless in the mouth.
It is old and tested. Its use has been the foundation on which successful practices have been built.—its users could make satisfactory lower plates where other materials failed.

Put up in ¼-lb. ingots, ample for a case.

A 2-cent stamp with application will bring a sample with instructions for use, and a free booklet telling all about it.

Price, Weston's New Metal	per ingot	$0.75
" Solder for same (¼-oz. ingots, Hard or Soft)	per oz.	1.00

The S. S. WHITE DENTAL MFG. CO.

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"THE OLD RELIABLE"

Lawrence's AMALGAM

With a single exception, Lawrence's is the oldest amalgam now on the market. That it has endured through forty years or more of widespread use is strong testimony to its character.

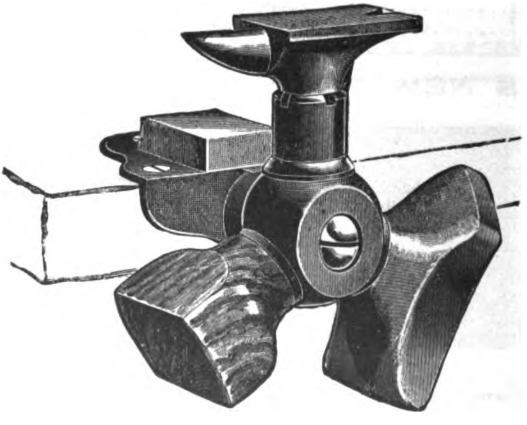
Lawrence's Amalgam is always put up in a white lithographed envelope covering a brown one containing the amalgam, with Trade-Mark on the flap of each, and both copyrighted. Put up in ⅓-oz., ½-oz., and 1-oz., envelopes.

PRICES

1 oz. . $3.00	2 oz. . $5.50	4 oz. . $10.00	10 oz. . $20.00	20 oz. . $35.00

THE S. S. WHITE DENTAL MFG. CO., Sole Agent

Revolving Combination Anvil and Bench Block



This combination tool consists of a hub carrying a case-hardened steel anvil, a par-vulcanized rubber block for filing, and a wood block for the same purpose, mounted on a bracket to be fastened to the workbench of the laboratory. It is adjusted by pulling out the hub slightly, revolving it until the proper appliance is in position, then releasing, when it is held firmly as placed by a friction-clutch. The bracket also affords a hammering surface.

Price, complete $3.00

DUPLICATE PARTS

Brackets	each	$0.50
Anvils	"	1.00
Rubber Blocks	"	.35
Wood "	"	.15

THE S. S. WHITE DENTAL MFG. CO.

Sole Agent for the dental trade for all countries except the United Kingdom of Great Britain and Ireland

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CELLULOID PLATES

Celluloid can be used as a complete plate or as a gum facing on a vulcanite or gold.

Celluloid is grateful to the mucous membrane.

Celluloid requires no more labor or skill in its manipulation than rubber.

The variety of blanks is sufficient to meet every need. Five different series are made, each with from four to eight sizes, giving a variety of thirty-three plates to select from.

ORDINARY UPPERS.—Eight sizes; smallest, No. 3, 1¾ inches x 2 wide, running up to No. 6½, 2⅛ x 2¾ inches. The half numbers (3½, 4½, etc.) are the same *sizes* as the even numbers, but much heavier.

UPPERS........	Nos.	3	3½	4	4½	5	5½	6	6½
	Price,	$0.16	.20	.18	.22	.22	.25	.27	.29

"A" PLATES.—Same sizes and numbers as ordinary uppers, but double thickness, for cases where great absorption has taken place. They are marked "A" on the upper surface.

UPPERS "A" ..	Nos.	3	3½	4	4½	5	5½	6	6½
	Price,	$0.23	.24	.24	.28	.30	.30	.39	.44

LOWER PLATES.—Seven sizes; No. 1½, smallest, to No. 4½.

Lowers	Nos.	1½	2	2½	3	3½	4	4½
	Price,	$0.12	.13	.16	.15	.21	.21	.26

PARTIAL PLATES.—Three varieties, 2 sizes of each. Nos. 5 and 6 are for ordinary cases; Nos. 7 and 8 for cases where the front teeth only are to be replaced; Nos. 9 and 10 for the side teeth.

Partials.......	Nos.	5	6	7	8	9	10
	Price,	$0.08	.10	.13	.16	14	.18

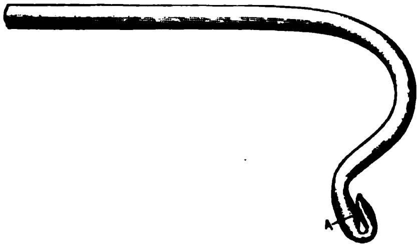
PLUMPER PLATES.—Four sizes, Nos. 3, 4, 5, and 6. Nearly the same size as the ordinary uppers of same numbers, but with very heavy rim, for cases where the gum is much absorbed.

Plumpers......	Nos.	3	4	5	6
	Price,	$0.27	.36	.43	.35

Improved Glass Mouth-Piece

Patented June 4, 1895

DR. J. SIMONSON'S



In this very practical device, suggested by Dr. J. Simonson, the orifice at A is protected by turning back over it the end of the tube, so that the mucous membrane of the mouth will not be drawn into it, and it will be less liable to obstruction from any cause. Adapted for use with our Improved Saliva Ejector.

Price.......per doz. $1.00 Each $0.10

THE S. S. WHITE DENTAL MFG. CO.

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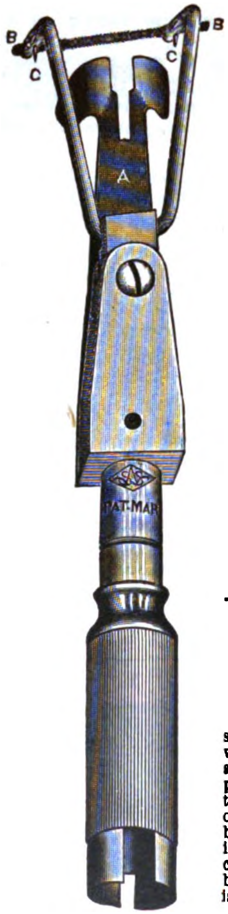
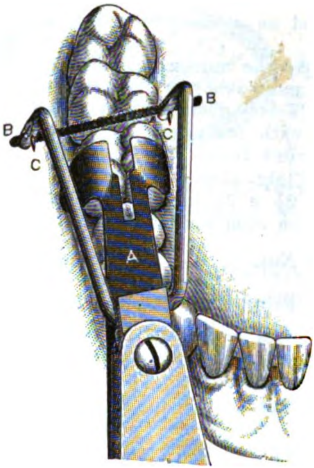
Philadelphia New York Boston Chicago Brooklyn Atlanta Rochester
New Orleans Berlin Buenos Aires St. Petersburg Toronto

. .File, Saw, and Tape Carrier. .





Invention of **Dr. A. J. Brown**; Patented March 31, 1896.

Files, saws, and tapes can be applied with this Carrier, with the advantages of the rapid motion of the engine. Files and saws are held firmly to their work, and tapes are conformed to the contour of the tooth through the spring tension of the arms.

The carrier, C, is operated with a cam by the dental engine. A rest, A, prevents vibration of the carrier and holds it steadily to its work; it also prevents a sudden dropping of the saw onto the gum.

PRICES

For Nos. 4, 6, 7 or 8 Hand-piece	each	$5.00
For Slip-Joint	"	5.00
For Doriot. Hand-piece A	"	5.00
Saws, single cut	per doz.	.25
" double "	"	.38
Files, Flexo	"	.75

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